

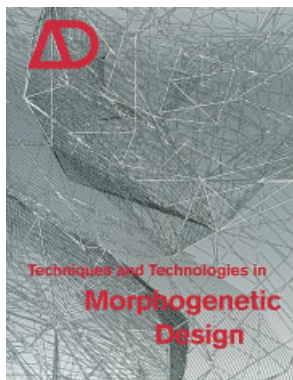
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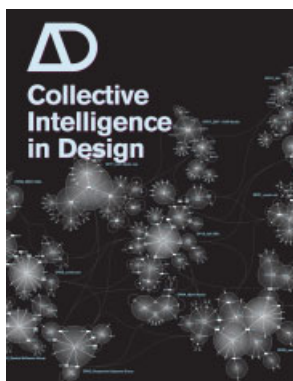
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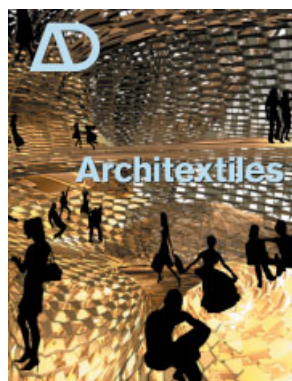
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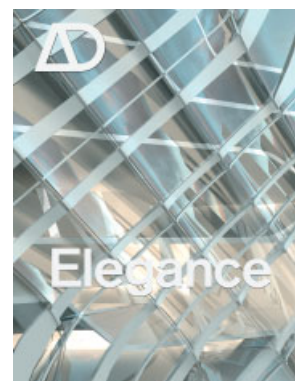
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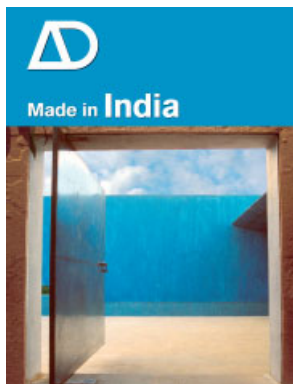


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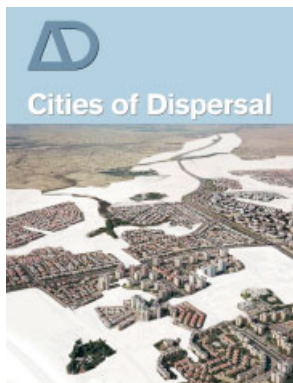


November/December 2007, Profile No 190

Made in India

Guest-edited by Kazi K. Ashraf

The architectural and urban landscape of India is being remade in most unexpected and exuberant ways. New economic growth, permeation of global media and technologies, and the transnational reach of diasporic Indians have unleashed a new cultural and social dynamic. While the dynamic is most explicit and visible in the context of the Indian city, a different set of transformations is taking place in rural India. Yet, as the political writer Sunil Khilnani notes, the world's sense of India, of what it stands for and what it wishes to become, seems as confused and divided today as is India's own sense of itself. It is a challenge, in these conditions, to explore how the deeply entrenched histories and traditions of India are being re-imagined, and how questions of the extraordinary diversity of India are being reinterpreted in its architectural and urban landscape. AD traces this compelling story through the writings of Prem Chandavarkar, Sunil Khilnani, Anupama Kundoo, Reinhold Martin, Michael Sorkin and others, and new projects and works in the Indian subcontinent.



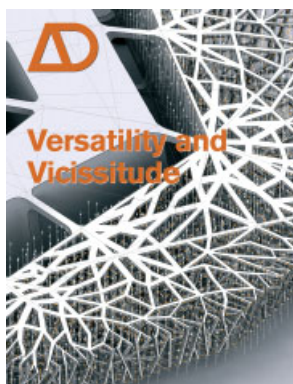
January/February 2008, Profile No 191

Cities of Dispersal

Guest-edited by Rafi Segal and Els Verbakel

Questioning the traditional boundaries between cities, suburbs, countryside and wilderness, this issue of AD explores emergent types of public space in low-density environments. *Cities of Dispersal* describes this new form of urbanism; decentralised, in a constant process of expansion and contraction, not homogeneous or necessarily low-rise, nor guided by one mode of development, typology or pattern.

While functionally and programmatically, dispersed settlements operate as a form of urbanism, the place of collective spaces within them has yet to be defined and articulated. The physical transformation of the built environment on the one hand, and the change in our notion of the public on the other – due to globalisation, privatisation and segregation – call for renewed interpretations of the nature and character of public space. The concept of public space needs to be examined: replaced, re-created or adopted to fit these conditions. What is the place of the public in this form of urbanism, and how can architecture address the notion of common, collective spaces? What is the current socio-political role of such spaces? How does the form and use of these spaces reflect the conception of the public as a political (or nonpolitical) body? And can architecture regain an active role in formulating the notion of the collective? These and other issues are addressed through essays, research projects and built work by distinguished writers such as Bruce Robbins, Albert Pope and Alex Wall, and practitioners including Zvi Hecker, Vito Acconci, Mutoipia, Manuel de Solá-Morales, Martha Rosler and Manuel Vicente in a search for new collective architectures within the dispersed city.



March/April 2008, Profile No 192

Versatility and Vicissitude: Performance in Morpho-Ecological Design

Guest-edited by Michael Hensel and Achim Menges

This third AD by the guest-editors of the highly successful *Emergence* and *Technologies and Techniques* titles shifts the morpho-ecological design project into the realm of performance. Whereas the dictionary definition of performance – to 'carry out an action' or 'to fulfill a task' – invokes a tired utilitarian debate, Hensel and Menges inject the meaning of the word 'performance' with an entirely new life. In this context form is redefined not as the shape of a material object alone, but as the multitude of effects, milieu of conditions, modulations and microclimates that emanate from an object's exchange with its specific environment; a dynamic relationship that is perceived and interacted with by a subject. A synergetic employment of performance and morpho-ecological techniques combine to create integral design solutions that will render an alternative and entirely innovative new model for sustainability. This issue presents the historical precursors and precedents for this approach and presents the current state of the art of *morpho-ecological design*. Key contributors include: Klaus Bollinger, Lawrence Friesen of Buro Happold, Manfred Grohmann of Bollinger & Grohmann, Aleksandra Jaeschke, OCEAN NORTH, Remo Pedreschi, Defne Sunguroglu, Peter Trummer and Michael Weinstock.

Architectural Design
September/October 2007



Rationalist Traces

Guest-edited by
Andrew Peckham, Charles Rattray and Torsten Schmiedeknecht



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Geurst and Schulze, Prinsegheschool, The Hague, 2004

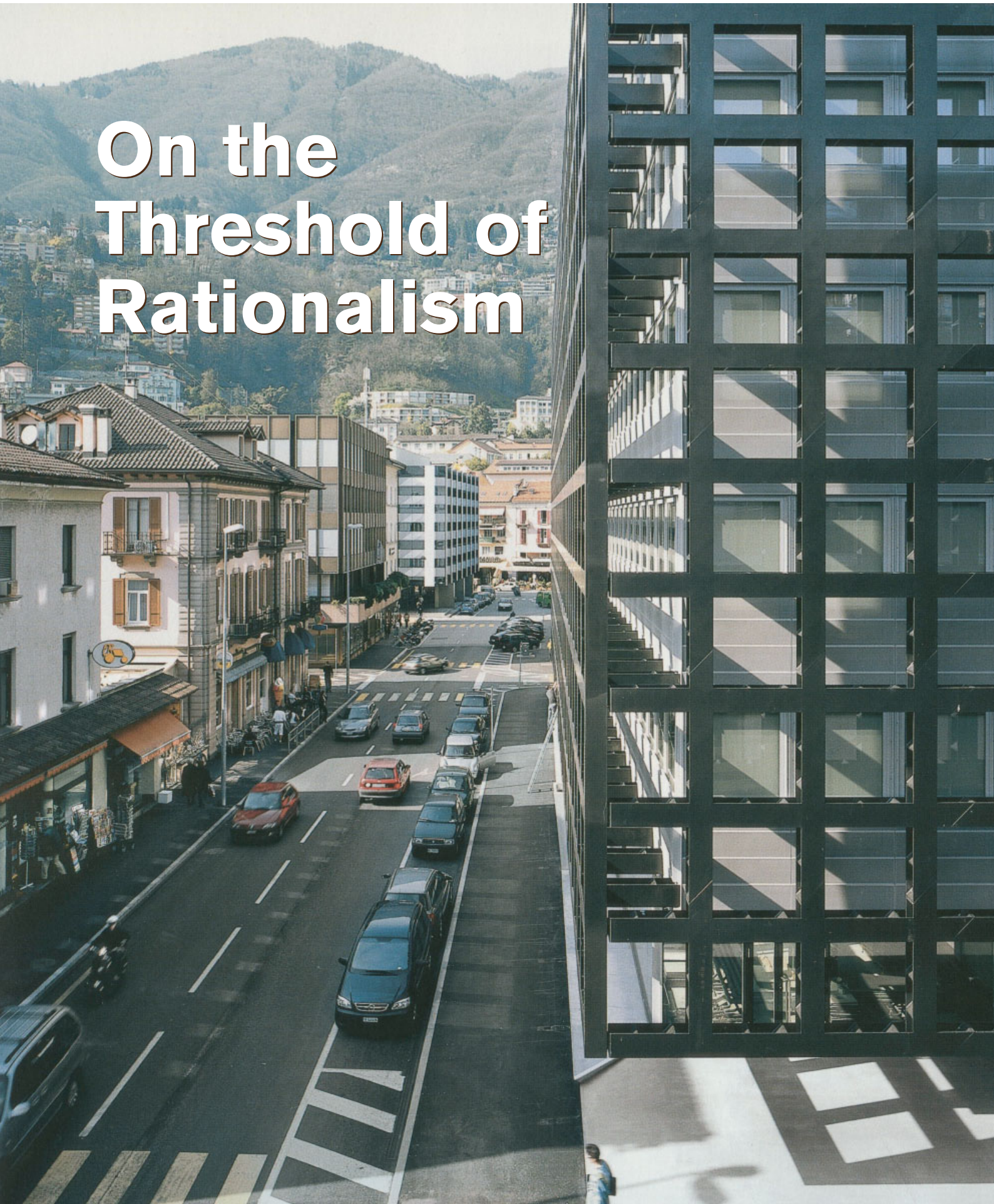
The combination of pragmatic design practice with a strong concern for the relationship between typology and public space gives Geurst and Schulze clear Rationalist credentials.

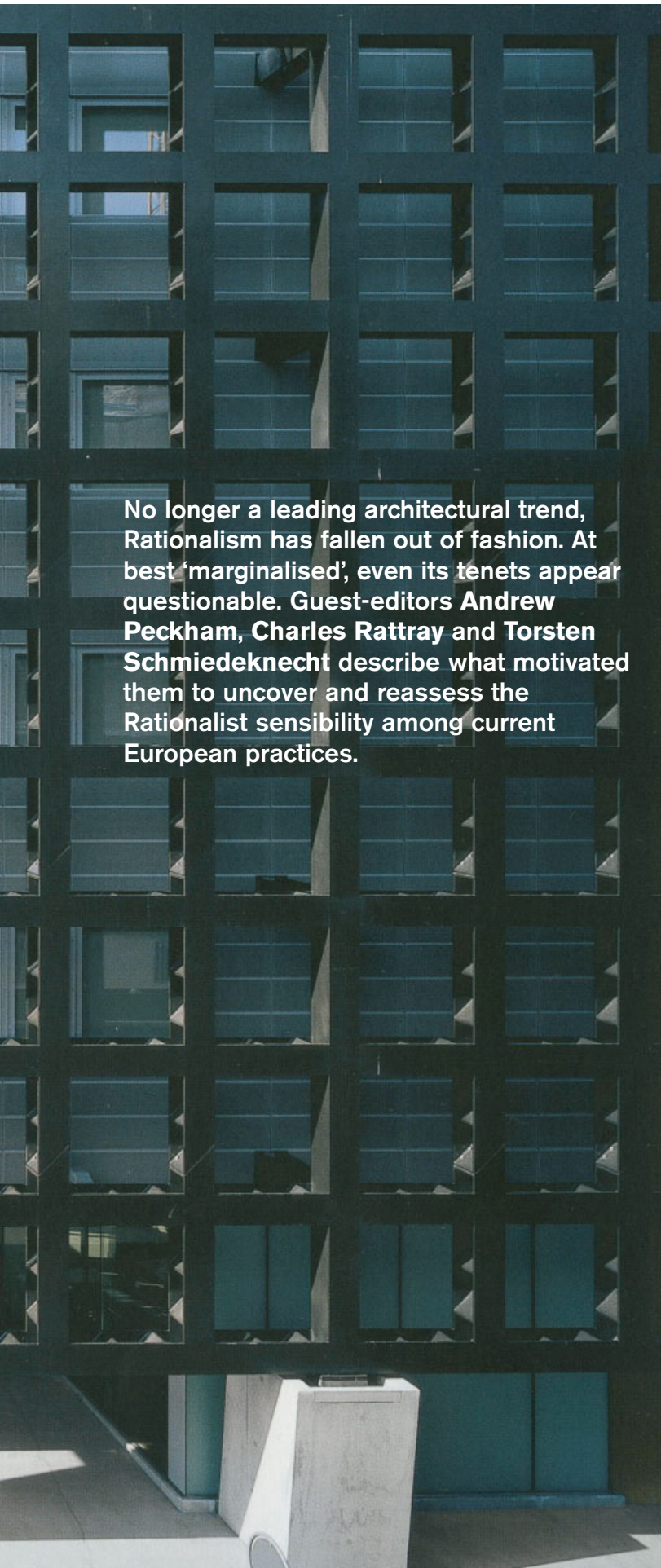
At first glance, an issue of *AD* concerned with the notion of Rationalism in architecture might be misconstrued as revivalism or even nostalgia. Rationalism admittedly comes with a history, and thus with its own baggage. Several of the contributors, providing national overviews, are tentative about its current position. They assert that Rationalism in the present day belongs to the periphery. Joseph Abram is insistent that 'except for a few rare exceptions there are no traces of Rationalism in contemporary French architectural practice', though this comment, in fact, admittedly proves no more than a prelude to his assertion of Rationalism's significant place in the future of architecture in France. Ákos Moravánszky, somewhat more extremely, likens 'Mediterranean Rationalism' in Switzerland to 'the imitation stitching on the moulded plastic dashboard of a new car'. With foresight, Rationalism's past can make people wary. Like much of the architecture of its time, the work of Giuseppe Terragni and Gruppo 7 was associated with the governing regime of Mussolini's fascism, represented by Terragni's Rationalist building the Casa del Fascio in Como (1936). Despite the ideological break with the earlier period of Rationalism, and a sharp move to the Left, the Rationalist tendencies of the 1960s and 1970s were also later discredited with the onset of Postmodernism. In many countries in the late 20th century, little distinction was made between Rationalism and its Modernist relation. This meant that in the mind of the public, its modern language and sensibility was associated with the perceived failure of Modernism and the inhuman face of neglected mass-housing schemes.

The title's guest-editors, Andrew Peckham, Charles Rattray and Torsten Schmiedeknecht, approach their subject not as merely impassioned exponents, but with a measured and illuminating curiosity. What could a contemporary architecture imbued with a Rationalist sensibility, grounded in a sense of order, offer us if it were 'resourceful', engaging with social transformation and the realities of everyday life? Narratives emerge from the various contributors and the individual project descriptions that demonstrate the way that formal rigour and stringent composition of Rationalist tendencies can prove highly responsive to urban context and use. What is apparent is that even in its strongest manifestations, Rationalism can no longer be an ideology, if ideologies do indeed exist in architecture today in the sense that they were promoted in the 1930s or 1960s – propped up by manifestos and theories. What Rationalism can offer is a very useful strategy for both architectural analysis and for the generation of design. Energised with a very contemporary understanding of urban and social context, it can also prove irresistible for its understated elegance. **D**

Helen Castle

On the Threshold of Rationalism





No longer a leading architectural trend, Rationalism has fallen out of fashion. At best 'marginalised', even its tenets appear questionable. Guest-editors **Andrew Peckham, Charles Rattray and Torsten Schmiedeknecht** describe what motivated them to uncover and reassess the Rationalist sensibility among current European practices.

It is with a degree of circumspection that we revisit Rationalism in the context of contemporary architecture. At best a slippery term, distinctions between its philosophical implication and its application within architecture were outlined by Alan Colquhoun in his lucid essay of 1987: 'Rationalism: A Philosophical Concept in Architecture'. Defining the term as 'the result of the application of general rules, established by the operation of reason', and noting that 'of all the arts, architecture is the one in which it is least possible to exclude the idea of rationality', he nevertheless questioned the scope and viability of the concept in late 20th-century architecture. Addressing the formative research, back in the 1960s, which underpinned the work of the Italian *Tendenza*, and later the more general Neorationalist movement, Colquhoun identified a 'defensive reaction' to prevailing conditions, where the products of 'reason' are seen to be divorced from the contemporary activities of 'making, constructing, or imagining' – an allusion to the practice of 'creative' design and the media industries with which it is increasingly aligned. Recognising the longstanding estrangement between scientific thought and 'sensuous images of order', he concluded: 'Can we still use the word *rationalism* in architecture?'¹

Certainly rationality can appear to be a marginalised, if not reprehensible, concept, at odds with the spatial hyperbole of a contemporary avant-garde more concerned with correlating flows of people and information, pursuing evolutionary paradigms for the digital generation of abstract form, or adopting arbitrary procedural thinking as an inverted form of Functionalism. But appearances can be deceptive: the demands of constructing architecture founded on formal or geometric complexity typically require a degree of technical post-rationalisation beyond the capability of the architect as designer. Digital technologies are assumed to master this split between the contingent production and manipulation of form, and the rationale of prefabricated construction systems. A parallel schism, between an irrational culture and its antithesis in the rational model of institutions, is mirrored in the legislative and empirical constraints that reside as a normative ideology in architecture regardless of its 'radical' intentions.²

Our interest in the subject stemmed not from an idealistic conception of a return to order, or the production of a new Rationalist paradigm, but from questioning the validity of an architectural avant-garde conditioned by a culture of speculative irrationality, yet produced through the application of a supra-rational digital technology. This was not to assert one paradigm against another, but to consider where a Rationalist sensibility persists in contemporary architecture and what its implications might be. Whether expressed overtly or covertly, this would seem to go against the grain of purely visual effects, anecdotal formal gestures, hybrid

Livio Vacchini, La Ferriera Offices, Locarno, Ticino, Switzerland, 2003
A grid of matt-black cantilevered steelwork encloses the inner volumes of the office buildings.

concepts and the now familiar logic of cross-programming. But to conceive Rationalism as an antidote to contemporary trends would fall back on a nefarious dualism. In any case, why should an architecture predicated on the ground rules of a methodological framework – a representative tectonic character and a degree of sobriety or formal autonomy – not also recognise social transformation and the realities of everyday life, drawing on the subjectivity of feeling and experience in its conception? Rationalism can be resourceful, and need not be doctrinaire.

So does the 20th-century's quasi-mythical rational 'tradition' live on in the coherent practice of individual architects? In our scrutiny of contemporary architecture in Europe we were not looking for evidence of a 'movement', but for signs of a reflexive Rationalism that might be sought in the consistency of an architect's *oeuvre* or be identified in particular, and possibly atypical, buildings or projects. Whether this consistency is redolent of, or informed by, a legacy of Neorationalism from the 1970s, or whether this singularity has an affective relationship to the canonical (so called) Rationalist projects of the interwar period, has been deliberately viewed as an open question. However, we have been wary of minimalist affiliations, where reduction to essentials is often subsumed in an overtly self-conscious aesthetic of surface, and also of the stylistic tropes and

aesthetic variations that periodically surface to typify a 'contemporary' Neomodernist architecture.

This issue of *AD* presents a cross-section of contemporary European practice, setting out evidence of Rationalist inclinations, practised within the cultures most strongly identified with Rationalism in architecture during the 20th century: Italy, Switzerland, Spain, France, Germany and the Netherlands. Beyond these, traces are less distinct and so, for example, the particular experience of Functionalism in eastern Europe, Irish Neorationalism, or the limited work of a Rationalist inclination in the UK has been set aside. Each country is introduced in relation to its specific experience of Rationalism in 20th-century architecture. Here contributors have been encouraged to develop their own focus or line of argument rather than conform to a given perspective. Following, rather than forming a continuation of these introductions, are short descriptions of four contemporary projects by architects in each country.

These studies are complemented by interviews with two influential protagonists of the postwar period – Giorgio Grassi and OM Ungers – whose thinking on Rationalism has followed contrasting trajectories, and by parallel photo-essays that register the consistent Rationalist practice of Max Dudler and the polemical and commercial approach of De Architekten Cie.

AD has tracked the fluctuations of the concept of the



Max Dudler, IBM Switzerland Offices, Zurich, Switzerland, 2002

Dudler's natural stone grid obscured by the steel stanchions of the neighbouring railway. Two systems of order are juxtaposed: formal rigour and empirical rationality.



Werner Tscholl, Selimex Building, Laces, Val Venosta, Italy, 2006
A gridded fabric of green glass encloses the conceptually transparent cubic volume of the offices inside.

‘rational’ in European architecture over the years in titles from ‘The Heroic Period of Modern Architecture’ of 1965, through ‘Neo-purism,’ and ‘Classicism is not a Style’ to ‘Building and Rational Architecture’ in 1985 – local evidence, perhaps, of Colquhoun’s contention that rationality is no constant, but something varying according to ‘a constellation of ideas dominating particular historical phases’.³ This conception of a rational dynamic goes against the grain of the Modernist formulation of an architecture reduced to a structure of cerebral form, or a Neorationalist allusion to ‘invariant elements of architecture’ ‘irreducible beyond the experience of architecture itself’.⁴ At the level of the individual, too, the degree of nostalgia, consolation or virtue that motivates an architect’s search for rationality may well also inform a degree of displacement, or ‘distancing’, in the manner in which it is constituted. Idiosyncratic Rationalism may be a philosophical contradiction, but it is an architectural truism.

By way of example, consider three contemporary paradigms of a Cartesian mentality in architecture, each employing a constructive (if not always tectonic) grid in a characteristically distinct manner. The first is the trabeated external cladding to Max Dudler’s IBM Offices in Zurich. In the second, a grid of matt-black cantilevered steelwork encloses the inner volumes of Livio Vacchini’s La Ferriera offices in Locarno. Thirdly, Werner Tscholl’s Selimex Building at Laces in the Val Venosta presents a gridded fabric of green silk-screened glass, enclosing the conceptually transparent cubic volume of the offices inside. None of these projects appears at first sight to be a literal expression of a structural frame (though in Vacchini’s case the grid does transfer the accumulated load of the office floors on to two revetments on each side of the building). Rather, in each case, the grid takes on a representational aspect.

In Zurich, a natural stone grid constitutes the facades of Dudler’s aggregated pinwheel composition. An otherwise

regular seven-storey block surrounds a two-storey covered courtyard (or hall of columns set out to define a frame). From outside all appears consistent – except when viewed over the neighbouring railway where ad hoc steel stanchions supporting overhead power cables obscure the order of the grid; two systems of order are juxtaposed and the empirical rationality of one obscures the formal rigour of the other.

Vacchini inverts this condition in his La Ferriera offices, where gridded Verendeel trusses are constructed over the full height of the building from open welded steel plates, connected at intervals with diagonal struts. Alluding to Mies van der Rohe, the whole screen is presented as an architrave. With a habitual indifference to literal imitation, Vacchini transforms the Cartesian grid in a form of representational realism. This mannerist sensibility is anathema to the objective face of rationality, but, as he explains, the engineering statics do bring about an efficient structure. As Dudler’s grid represents the rational face of IBM in what seems a 19th-century sensibility, Vacchini’s rhetorical screen layers two normative office blocks into the grain, and public space, of urban Locarno. What appears as a formalist gesture retains traces of a Neorationalist urban inclination, privileging an abstract conceptual understanding of form, but one mediated by a surrogate classical *modenature*.

Tscholl’s cube, in its valley between the mountains, inhabits a similarly peripheral regional culture to that of Ticino. The building’s rational appearance belies its hybrid programme and a night-time aesthetic where the fabric is lit in a variety of colours as a monumental light sculpture. Raised on an earthwork and reflected in a surrounding pool, it epitomises the rationale of a valley dependent on irrigation for its intensive fruit farming. Its shade of green merges with the landscape of the lower valley slopes but, seen from below, the reflective grid, combining artifice and rationality, mirrors the mountains and sky beyond.

The contemporary works featured in this issue are considerably more diverse than these three iconic buildings and their designers range from well-known architects of longstanding Rationalist persuasion to younger practices consigned to the background in collections of a supposedly characteristic national architecture (like *Superdutch* or *Swiss Made*). All, in their various ways, serve to define the parameters of what may be characterised as ‘architectures’ of Rationalism. ▮

Notes

1. Alan Colquhoun, *Modernity and the Classical Tradition: Architectural Essays 1980–1987*, MIT Press (Cambridge, MA), 1989, pp 57–87.
2. Contradictions between Rationalism as ‘ethic’ and ‘lifestyle’, and rational production (or cognition) and a culture of ‘unreason’, are discussed in Ernest Gellner, *Reason and Culture*, Blackwells (Oxford/Cambridge), 1992, pp 146–57.
3. Colquhoun, op cit.
4. Ibid.

The Dichotomies of Rationalism in 20th-Century Italian Architecture

The two key moments of Rationalism in Italy – the Gruppo 7 of the 1930s and the Tendenza of the 1960s – stand in counterpoint. The Tendenza espoused a very different ideology to its predecessor and thus remained ambivalent to the earlier legacy. **Andrew Peckham** reveals how this led to a history of discontinuity and, ultimately, recognition of Rationalism's limitations despite the involvement of influential figures such as Giuseppe Terragni, Aldo Rossi and Giorgio Grassi.



The fortunes of Rationalism in modern Italian architecture have been well charted, in studies of the interwar period and the 1960s and 1970s.¹ What was taken to represent a Rationalist architecture was quite different in each case. However, a retrospective interest in the 1930s, and the more immediate influence of ideas prevalent in the 1970s, overlapped to create a contingent relationship between the two periods. The question arises as to what degree our perception of each has been distorted by the presence of the other.

Distinct Forms of Rationality

During the 1920s, the concept of Italian Rationalism identified the assimilation of the Modern Movement (primarily from northern Europe) by different groups of Rationalist architects, and in particular the central figure of Giuseppe Terragni. Working variously with his partner Pietro Lingeri, Gruppo 7² colleagues Luigi Figini and Gino Pollini and, later, the younger Cesare Cattaneo, Terragni's work has retained a significance beyond the reputation of his immediate contemporaries. The idiosyncratic Novocomum apartments (1927) are typically viewed as the 'first' building of Italian Rationalism, and the Casa del Fascio in Como (1936) remains iconic of the movement, though its particular modulation of wall and frame was less than entirely representative.



Giuseppe Terragni, Novocomum Apartment Building, Como, 1927
Terragni's idiosyncratic Novocomum assimilated the influence of the Modern Movement while retaining its own unique character.

Rationalist groups responded to external influences in their own distinct manner, as they did to the inherited legacies of classicism (even Figini's Villa of 1935 and Cattaneo's House at Cernobbio retained distinct identities). Nonetheless a shared dialogue between abstraction, figuration and

monumentality, exemplified in the portico to Terragni's St Elia Kindergarten (1936), typically informed their work. Terragni attracted notoriety at the time (as a mannerist) and in retrospect (as a fascist). Italian Rationalism itself has consequently (and misleadingly) become associated with the enigma of his persona and the metaphysical attribution of his architecture. The political context and fluctuating identity of his work fitted uneasily into early histories of Modern architecture, and subsequent interpretations have focused on precisely the formal qualities and relationship to the aesthetised politics of Mussolini's regime that earlier historians found problematic.



Giuseppe Terragni, St Elia Kindergarten, Como, 1936
The cantilevered, lightweight and laterally framed portico typifies the tension between abstraction and figuration latent in Italian Rationalism.

The Italian Tendenza (Tendency),³ in contrast, emerged from the theoretical discourse of the early 1960s and was later to underpin an international Neorationalism marked by an ambivalent relationship with the Rationalist legacy of the 1920s. While critical of postwar urban planning, the Tendenza architects identified with a variety of sources, from the German/Swiss Rationalism of Ludwig Hilberseimer and Hans Schmidt, to the legacy of Enlightenment Rationalism and the collective urbanism of the Soviet bloc. Aldo Rossi stood out as a key protagonist given the central influence and international reputation of his book *The Architecture of the City* (1966).⁴ His own well-publicised architecture, however, later became distanced from the initial tenets of a reinvented and objective Rational Architecture (most consistently practised by his one-time colleague Giorgio Grassi). In proposing a 'rigorous argument' for architectural design 'based on a logical foundation',

Giuseppe Terragni, Casa del Fascio, Como, 1936
A contemporary view, from the adjacent Duomo, of the icon of Italian Rationalism, which reciprocates the urban implications of Terragni's building.

Rossi's early writing is unambiguous about 'the rationalist position towards architecture and its building'.⁵

Both the earlier and later conceptions of a Rationalist architecture were a reaction to prevailing social, cultural and political conditions. The consolidation of Italian fascism, and the attempt to legitimise a Rationalist architecture acceptable to the state, were unavoidable aspects of the 1930s. In contrast, the *Tendenza* was formed on the cusp of transformations in Italy's postwar economy, where architects and planners had sought in *la nuova dimensione* (the new dimension) of the early 1960s to confront contemporary economic realities from within. A contrary left-wing critique of consumerism and uncontrolled urban development led Neorationalist architects to identify with a 'zero-point' objectivity.⁶

Diversity and Its Limits

The interwar period and the later 1960s and 1970s were characterised by a diverse interpretation and practice of Rationalist architecture. While Gruppo 7 formulated the definitive manifesto of Italian Rationalism in 1926, this only generally correlated with 'Rationalist' inclinations developed later elsewhere. Distinct formal interests were developed in Rome (Libera's and Ridolfi's post offices of 1933, and Moretti's Fencing Academy, 1936), Florence (Michelucci and Gruppo Toscano's Santa Maria Novella Station, 1935) and Turin (Pagano's Gualino Offices, 1930). Nevertheless, the different groups collaborated in forming the Movimento Italiano per l'Architettura Razionale (MIAR) in order to present the case for Rationalist architecture nationally, and their thinking often coincided (whether locating Rationalism in a tradition of high culture or conversely alluding to a vernacular correlative for Modernism).⁷ Pagano's acrimonious attack on Terragni's 'aristocratic' mannerism, arguing for a Modernist objectivity as its antithesis, typified the instability of Italian Rationalism – a conflict internalised in the formal resolution of the (Como) Casa del Fascio itself.⁸

The thinking of the later *Tendenza* developed out of research into the urbanism of Ernesto Rogers in Milan, Giuseppe Samona in Venice, and Ludovico Quaroni in Rome. 'Tendency' accurately conveyed a shared logic rather than a unified perspective, developed individually in the work of architects like Carlo Aymonino and Vittorio Gregotti, or Franco Purini and Laura Thermes. The split between leading protagonists Rossi and Grassi – identified with an autobiographical subjectivity on the one hand, and an objective anonymity on the other – was seemingly evident in the geometric fracture of their San Rocco Housing competition entry (Mantua 1966).⁹ This, however, obscures the recurrent discursiveness and rationality evident in *both* their work. More explicit in Rossi's, and latent in Grassi's, architecture, this was variously and often contradictorily expressed in their writing, drawing and building. In retrospect it is apparent how an inclusive Neorationalist agenda projected in publications like the Venice Triennale catalogue *Architettura Razionale* of 1973¹⁰ (introduced by Rossi) was increasingly displaced by the generic



Aldo Rossi and Giorgio Grassi, San Rocco Housing Competition, Monza, 1966

'The design was already finished when I realised that there was a disturbing element to the order, involving a sense of something that had been lost, which made a truly rational design impossible. I looked then at the central axis: I broke it ...' – Aldo Rossi⁵

architecture preferred in Leon Krier's later 'Rational Architecture' of 1978.¹¹ This was at one remove, given its fictive autonomy and consolatory urban identity, from Rossi's digressions or Grassi's abstract formalism.

The question of continuity between the two Rationalist movements focuses on the career of Ernesto Rogers. As editor of the architectural journal *Casabella Continuità* between 1953 and 1964, his social conception of 'environment' is seen to have blurred the boundaries between the historic city and contemporary urban form (exemplified in Milan by BPR's Torre Velasca of 1954–58).¹² The ambiguous relationship between Rationalism and fascism in the 1930s only partly explains the shifts in the work of Rationalist architects immediately postwar, like Franco Albini (INA Office Building, Pavia, 1953) or Giovanni Michelucci (Commodities Exchange, Pistoia, 1950), where a Rationalist structural order was overlaid with a figuratively abstracted classicism.¹³ Manfredo Tafuri has thoroughly documented the vicissitudes of postwar Italian architecture that dissipated the Rationalist momentum of the 1930s.¹⁴

Conceiving Rationalism

Only a tenuous relationship exists between the two Rationalist periods, although Kenneth Frampton has linked Lingeri and Cattaneo's stolid Trades Union Offices in Como to Neorationalist architecture. Anecdotes suggest that Rossi admired Terragni's unbuilt Danteum project, and the catalogue for the 1973 Milan Triennale included Terragni's work. But the publication attracted scathing criticism from Tafuri for implying tendentious associations between divergent sources. Aspects of Neorationalist thinking did, nonetheless, influence critical accounts of Terragni's work during the 1980s.¹⁵ Critics have exploited the lacunae of his identity and ambivalent relationship to mainstream Modernism, whether in Peter Eisenman's formal analysis or Daniel Libeskind's hagiography.¹⁶ Both encourage a reading of

the (Como) Casa del Fascio as an autonomous architecture, but one also the product of a highly subjective mentality – a duality also present in Rossi's work.

The Gruppo 7 Manifesto of 1926 represented a first attempt to define Italian Rationalism. Reiterated in subsequent Rationalist polemic, the text has been selectively quoted for its identification with a 'new spirit' (redolent of Le Corbusier) – with order, clarity and logic (that 'so much depreciated definition of rational' Terragni noted later in 1942), and a contemporary 'transformation' of tradition. Careful to distance themselves from the Futurists, Gruppo 7's perspective was tempered by their own expectations of an 'Italian' Modernism. The assertion of an 'international patrimony' (following a survey of Modern architecture in Europe) envisaged 'the creation of new *fundamental forms*'. These were conceived as if 'an alphabet of architecture', seemingly imbued with the 'proof of the perfection achieved by ancient architecture', displacing a classical foundation onto the International Style (against the grain of their own definition of characteristically distinct national styles of Modernity). Identifying with Le Corbusier as a traditionalist, they eulogised the clear logic and abstract perfection of his houses, yet criticised an inopportune machine aesthetic and the clinical 'over rigorous application of pure rationality'.¹⁷

Characteristically arguing that 'our past and present are not incompatible', Gruppo 7 contended that 'it is tradition that transforms itself and assumes new aspects recognisable only to a few', presuming a formal inevitability about their later (contradictory) concept of a 'New Archaic Era'. Aspiring to create 'a few fundamental types' perfected from those of the past, where Renaissance architects were seen to have established 'the precise characteristics of the Florentine palazzo' for 'the convenience of their contemporaries', Le Corbusier's Domino Frame (although primarily a structural concept) served as a contemporary model. Formal types were to be 'selected' in design; initially viewed as a 'temporary standardisation' (in the 'spirit of construction in series') necessary to establish a cultural consensus. Noting that ancient Rome was built in series, the 'mechanical value' of the Parthenon asserted the role of typology in Gruppo 7's conception of a contemporary archaism.¹⁸

Returning to Rossi's view of a Rational architecture, summarised in his 'Architecture for Museums' (1966),¹⁹ a limited parallel may be made with the earlier preoccupation with type. Rossi proposed 'an education' where a logically clear 'world of form' in architecture was viewed as the equivalent of *meaning* 'in any other form of thought'. If this suggests a philosophical conundrum, his paradigm was explained as a conception of autonomous²⁰ 'museum places' deployed by technicians, and 'adapted' to requisite 'functions and needs'. Stressing the 'typological question' as 'the practice of design' (a central assumption of Neorationalism), his later introduction to *Architettura Razionale* prompted the suggestion of 'a sort of heraldry' acting as an inverted form of Functionalism.²¹ This antecedent for the surreal logic of Rossi's architecture was

remote from Terragni's metaphysical idealism; the emblematic icon of the four-square window occupying a different realm from Terragni's framed modulation of space.

Trajectories of Neorationalism

The first two sentences of the introduction to Rossi's *The Architecture of the City* not only summarise the content of the book, but also the essence of the Neorationalist project:

The city, which is the subject of this book, is to be understood as architecture. By architecture I mean not only the visible image of the city and the sum of its different architectures, but architecture as construction, the construction of the city over time.²²

The city is conceived as a mythical condition, a 'state of mind' as much as a concrete reality (outlining its classification, structure and elements, 'locus' as historical context, and unfolding social and political dynamic). Rational urbanism is seen as a necessary tautology, a limitation that ultimately flawed Neorationalism.

Rafael Moneo characterises Rossi's thinking as developing from being a 'slave to knowledge' to later a 'victim to feeling', in a move from the metaphor of 'construction' to one of 'image'.²³ Nonetheless, a consistent rational trajectory extended from Rossi's early work, linking the linear Gallaterese housing (1970 icon of Neorationalism) and Modena Cemetery (1971–84) to the Casa Aurora Offices in Turin (the last building, in 1984, to retain this formal conviction). Equally, the series of monuments, from the project for a Monument to the Resistance in Cuneo (1962) to the Via Croce Rossa Monument in Milan, or the series of unassuming housing projects in the Italian countryside, present different faces of Neorationalism.

But this rational consistency was illusory given the increasing discursiveness of Rossi's analogical architecture. The development of Grassi's work, in contrast, offers only a distinction between the laconic proto-Rationalism of the early 1960s (applied to freestanding buildings), and the careful juxtaposition of old and new in restoration projects (exemplified by the early, and reworked, project for the Castello di Abbiategrasso in 1970). A consistent thread is carried through from the reconstruction of the Roman theatre at Sangunto (1985, 1990–93) to the more recent University Library in Valencia (1998). Marshalling his sources from Hilberseimer to Viollet-le-Duc, via Tessenow and Oud, Grassi remains resolute. Ordinariness, and later even mediocrity, are theorised with conviction and identified with an unconditional acceptance of rules and a total submission to a particular body of work. Reproducing the condition of a still life, or dead language, a will to order in architecture sets aside the eloquent questioning and uncertainties expressed in his later writing.

If the work and thinking of Rossi and Grassi are habitually seen as the two polarities of the *Tendenza*, Vittorio Gregotti occupied a third space.²⁴ His more orthodox practice was



Giorgio Grassi, Restoration of the Castello di Abbiategrasso, Lombardy, 1970
Grassi's early paradigmatic restoration project.

initially identified with a normative Neorationalism (exemplified early on in a series of residential projects: from the ZEN Quarter in Palermo of 1969–73 to the Venice Cannaregio of 1981). As editor of *Casabella* from 1955 to 1963 (working with Ernesto Rogers), he wrote intelligently about the earlier Rationalist period, identifying a Postmodern interest in the instability of Terragni's work and emphasising its 'creative reasoning' on form and space (paralleling that of contemporary abstract painters).

Rossi's discursive and opportunistic romanticism in his later projects nonetheless retained the aspect of a differentiated Rationalism.²⁵ His studies for San Carlo alla Barona (1990) visualised a poignant epiphany on the Milanese periphery, presenting a closure as convincing in its own way as Grassi's disavowal of the fashionable and fragmentary. In their initial formulation of Neorationalism, both architects took a critical and didactic view of the role of the architect and their stance was that of the cultured intellectual. Architecture was conceived as a system of thought as logical (or illogical) as any other, material construction being deferred in favour of the construction of ideas. It was Viollet-le-Duc's thinking on the problem of restoration that interested Grassi, not simply the tectonics of structural Rationalism.

Still Life

Neorationalist architecture is exemplified by the concept of the 'still life'. A collection of forms that frame the everyday – ordinary, timeless, effective as useful objects, but also (for Rossi) the subject of affection. Rossi's drawings literally sketch out this connection, whereas for Grassi it appears a literary idea. Terragni's Rationalism, in contrast, is preoccupied with space – a representative space, but not one distanced from occupation and use. The computer visualisations published in Galli and Mühlhoff's *Virtual Terragni* reproduce his architecture as a

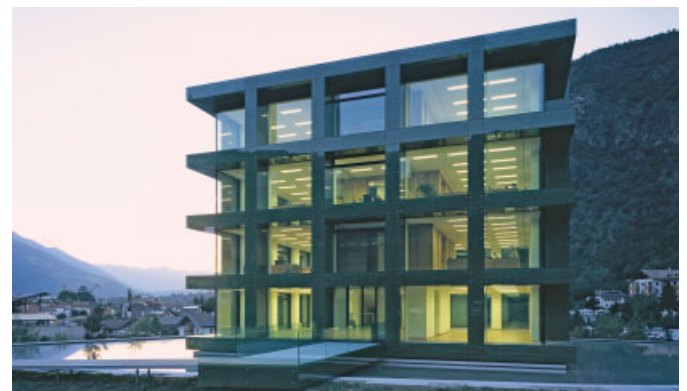
series of inchoate elements (and volumes), applying a stolidity reminiscent of the Neorationalist 'project' (its antithesis).²⁶

Rationalism appears to have been relegated to the margins of contemporary Italian practice. A critical architecture in Neorationalist guise belongs to an earlier ideological moment. It has been suggested, nonetheless, that this promulgated a basic code and culture of design ingrained in two generations of institutional practice (and teaching), now out of key with contemporary urban realities. Yet not dissimilar conditions were addressed by Neorationalism in the 1960s.

Italian critics have pointed to a continual dialectic between tradition and modernity – originating in the 1930s, maturing in the 1950s and revisited by Neorationalism – and oscillating between problems of form and ideology. The legacy of this inherited history, addressed originally by Gruppo 7, informed the collective perspective (if not always the practice) of Neorationalism. The subsequent failure of their urban project is habitually associated with problematic social housing and the inflated rhetoric and expectations of urban reconstruction. Inevitably this critique identifies the pragmatic and material failings of a Rationalist construction of ideas as



Aldo Rossi, San Carlo Alla Barona Church project, Milan, 1990
Rossi's rhetorical facade contrasts with the austerity of the church behind, reminiscent of his early work.



Werner Tscholl, Selimex building, Laces, Val Venosta, 2006
Tscholl's latent Rationalism emerges in the Cartesian form of this representative building.

much as the limitations of a particular formal repertoire.

In the current context, Cino Zucchi still works within a Rationalist schema (of urban planning and typological configuration). In his housing projects, variation and differentiation are discursively mapped within circumscribed parameters. Beniamino Servino similarly retains a memory of Neorationalism in his attachment to Caserta, designing a series of paradoxical, muted but decoratively elaborate buildings. Given this distancing from overtly Rationalist form, it is axiomatic to discover Werner Tscholl's houses and Selimex Building (2005) in the peripheral context of the Alto Adige. Employing a latent Rationalism appropriate to the project in hand, his work is distinct from the self-conscious aestheticism typified by Mauro Galantini's elegant Neomodernism (Elementary School, Bernate, 2004). In contrast, both Eccheli and Campaguola or Pietro Pellegrini – though differing in emphasis – have presented a less elaborate but more consistent identity in their architecture. Less cogently perhaps, the occasional project surfaces where the logic of an

individual programme prompts a return to Rationalist order; for example, C+S Associati's Kindergarten at Covolo (2006) stands out from the practice's mainstream work.

These contemporary buildings are placed uneasily in relation to the received mythology of the Rationalism in Italian architecture (less than exceptional when viewed in the wider context of pre- and postwar periods). In both its key moments, Italian 20th-century architecture presented a Rationalist experience that settled into unsuspected patterns of thought. Out of key with fashionable predilections, these retained a tangible presence in the later work of Grassi and Gregotti. Back in the 1920s Gruppo 7 were polemically preoccupied with a Rationalist lucidity, highlighting the persistent gloom of a received, if simplified, historicism (as they saw it). The legacy of what constitutes the double bind of Italian Rationalism, beyond the buildings constructed during the two periods, or the divide between practical reality and the realm of ideas, is only revealed, momentarily illuminated, on the periphery of contemporary architectural discourse in Italy. ▮

Notes

1. M Tafuri, *History of Italian Architecture*, MIT Press (Cambridge, MA and London), 1989; T Kirk, *The Architecture of Modern Italy*, Vol 2, Princeton Architectural Press (New York), 2005; R Etlin, *Modernism in Italian Architecture 1890–1940*, MIT Press (Cambridge, MA and London), 1991; and D Doordan, *Building Modern Italy*, Princeton Architectural Press (New York), 1988. The author's overview of Rationalism in 20th-century Italian architecture is an external one limited to translated sources (referred to in the first instance).
2. A group of young Milanese architects who argued the case for an Italian Rationalist architecture. Its other members were Ubaldo Castagnoli, Guido Frette, Sebastiano Larco and Carlo Enrico Rava.
3. Massimo Scolari is credited with instigating the term. As a general tendency it identified the direction of contemporary research on 'the city' pursued in Milan, Venice and Rome. It became a more specific label associated with the work of young architects like Aldo Rossi, Giorgio Grassi and Vittorio Gregotti, who emerged under its auspices. They later became assimilated under the wider umbrella of an international Neorationalism. Both terms have been questioned as to their applicability and usefulness.
4. A Rossi, *The Architecture of the City*, MIT Press (Cambridge, MA and London), 1982.
5. A Rossi, 'Architecture for Museums', in John O'Regan et al (eds), *Aldo Rossi*, Architectural Design (London), 1983, p 25.
6. At odds with unreflective practice, and informed by a critical view of the city, this emphasised the concrete historicity of urban form.
7. Pagano's study of vernacular architecture has been claimed to provide a precedent for Ernesto Rogers' methodologies postwar.
8. Terragni's own account of the building is explicit in this regard.
9. See 'Simply a Path', in D Libeskind, *Chamberworks*, Architectural Association (London), 1983. Their divergence is also well expressed in the contrast between Rossi's Villa and Pavilion at Borgo Ticino (1973) and Grassi's House for 4 Brothers (1978).
10. M Scolari et al (eds), *Architettura Razionale*, Franco Angeli (Milan), 1973.
11. *Rational Architecture 1978*, AAM (Brussels), 1978, in which Anthony Vidler's essay 'The Third Typology' was notably influential.
12. Rogers' partnership BPR designed significant Rationalist projects in the 1930s; their post office and prescient competition project for the Palace of Italian Civilisation at EUR deploy a Rationalist structural frame untainted by accusations of fascist monumentality levelled at Terragni. This was only to be expected retrospectively given their colleague Banfi's fate, memorialised in the poignant, tubular steel frame they designed for the Milanese Memorial to the Victims of Concentration Camps (1946). A symbol of Rationalist continuity, but also of its problematic status postwar.
13. Moretti, surprisingly given his collective Milanese apartment buildings of

- the late 1940s, was later to pursue an unrepentant commercial formalism, and Ridolfi's Neorealist urban vernacular immediately subsumed the framed aesthetic of his Rationalist apartment buildings. Pollini and Figini remained more obdurate (as in their Via Harrar housing, Milan, 1952–53).
14. Although he is accused later on of overlooking the limitations of the *Tendenza*. The work of BPR, Samona and Gardella all follow a similar pattern postwar.
 15. The conclusion to Danieli Vitale's 'An Analytic Excavation', *9H*, No 7, 1985, p 23, and the contextual agenda of Thomas Schumacher's *Surface and Symbol: Giuseppe Terragni and the Architecture of Italian Rationalism*, Princeton Architectural Press (New York), 1991.
 16. P Eisenman, *Giuseppe Terragni: Transformations Decompositions Critiques*, Monacelli (New York), 2003, and D Libeskind, 'Life after life', in L Molinari (ed), *The Terragni Atlas: Built Architecture*, Skira (Milan), 2004, pp 54–61.
 17. 'Gruppo Sette's "Architecture" (1926) and "Architecture (II): The Foreigners" (1927)', translated in *Oppositions*, No 6, Fall 1976, pp 89, 100.
 18. *Ibid*, pp 89–92, 100–02
 19. A Rossi, 'Architecture for Museums', op cit.
 20. A term often taken out of the context in which he used it.
 21. A Rossi, 'Rational Architecture', op cit, p 57.
 22. A Rossi, *The Architecture of the City*, op cit, p 21. The book is structured in chapters that read as the series of 'lectures' on which they were based; their titles suggest a logical 'treatise', but the text habitually veers towards a more discursive 'poetic'. The book is all of these or, more accurately, none of them.
 23. R Moneo, *Theoretical Anxiety and Design Strategies in the Work of Eight Contemporary Architects*, MIT Press (Cambridge, MA and London), 2004, p 105.
 24. Gregotti's early theoretical text on territory complemented Rossi's on the city and Grassi's on a logical architecture: V Gregotti, *Il territorio dell'architettura*, Feltrinelli (Milan), 1966; A Rossi, *The Architecture of the City*, op cit; G Grassi, *La costruzione logica dell'architettura*, Padua, 1967. He preferred the notion of the 'design of reason' to the Neorationalist label.
 25. He 'distanced' historical form (Funerary Chapel, Guissano, 1981); accommodated market forces (Centro Torri Shopping Centre, Parma, 1985); provided a framework for contemporary interiors (Hotel Il Palazzo, Fukuoka, 1987), and confronted the anonymity of air travel (Linate Airport extension, Milan, 1991).
 26. M Galli and C Mühlhoff (eds), *Virtual Terragni*, Birkhäuser (Basel), 2000. Peter Eisenman reconstitutes Terragni's virtual space for the electronic era in a more sophisticated manner in his own work.

Selected Italian Projects

Rationalism remains at the sidelines of contemporary architecture in Italy – a latent current rather than a leading force. **Andrew Peckham** and **Lucia Tozzi** reveal how this stubborn but rich seam is manifesting itself: in Cino Zucchi's substantial housing scheme on the outskirts of Milan; Werner Tscholl's insertion into Schloss Sigmundskron/Castel Firmiano; Beniamino Servino's continued work on the Nursery School in Formicola, Caserta; and C+S Associati's Nursery School at Covolo di Pederobba in Treviso.

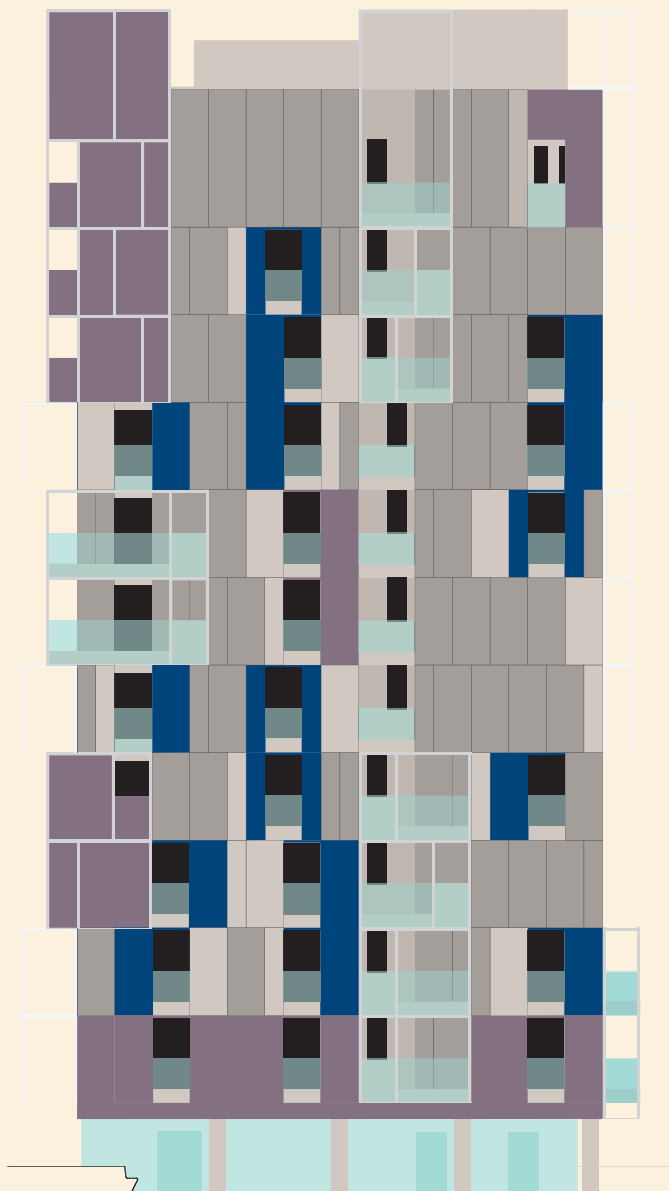


The context of the Milanese periphery.

Nuovo Portello Housing, Milan

Cino Zucchi

2007



Study of the speculative housing tower elevation.

Cino Zucchi's housing at Portello constitutes the first of three housing areas set out within Gino Valle's master plan, drawn up in the late 1990s for the development of the site of the old Alpha Romeo factory on the Milanese periphery. The dense development sets out a rational configuration of three parallel residential slab blocks and five towers, which articulate the urban space around the centrepiece of the scheme – the factory canteen building reclad in stone and converted into offices and service uses.

This direct urban parti is mediated by the variegated fenestration applied to the different buildings. The 'closed' substantive face of the lower subsidised housing blocks is contrasted with full-height steel-framed loggias on their open side which incorporate an offset pattern of vertical elements and alternately solid and open balustrades. Vestigial pitched roofs contrast the two subsidised towers with their private neighbours. Their closed form and primary symmetrical openings are modulated by the application of recesses, and a variety of bays and panels set proud of their planar surface. The private towers meanwhile project the application of aggregated vertical balcony elements in a more arbitrary manner, which obscures their overall volume (representative, perhaps, of the logic of market forces).

Zucchi clearly retains the coherent discipline of a typological approach to urban form and space more simply recognised in his previous, contextually integrated Junghans housing in Venice (2002), but this is overlaid both in Milan and Venice by a characteristic concern to project a differentiated identity. Individual dwellings and separate urban forms are elaborated in a manner that initially has the appearance of arbitrariness, but in Milan recognises social distinctions and contextual obligations, accepting the different urban conditions addressed on each side of this complex site.



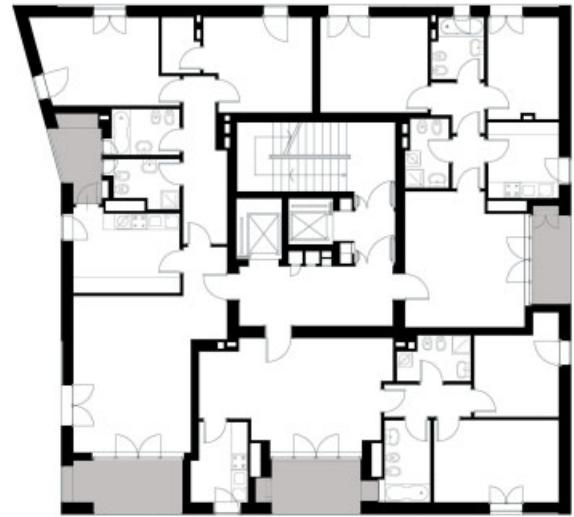
Site model showing the composition of linear blocks and towers.



'Closed' elevation to the linear blocks.



Linear block showing the design of the loggia.



Typical tower plans with speculative housing apartments to the left and subsidised housing to the right.



The offset planning of the subsidised housing towers.

Restoration of Schloss Sigmundskron/ Castel Firmiano, Bolzano

Werner Tscholl

2006

The restoration of the castle is informed by the architect's previous series of characteristic interventions. From his earlier funerary chapel in the village graveyard in Laces and his conversion of the Reichenberg Tower, to the reuse of Furstenburg Castle and his (current) restoration of Monte Maria monastery in Burbusio, Tscholl's strategies recognise how the character of existing buildings may coexist with contemporary elements and new uses.

At Castel Firmiano the form of the 15th-century ruin – the last phase of the occupation of this strategic site – is conserved through the structurally independent insertion of a set of precisely delineated 'black' steel elements placed within the constituent fabric of the castle. These support facilities for visitors, a space for temporary exhibitions, a mountain museum, and a new pattern of circulation and exhibition spaces distributed in a narrative sequence around the ruins.

Where these are expressed externally, as in new walkways, the steel is allowed to rust (associating with the colouring of the neighbouring porphyry stone walls); internally it is treated with a matt wax finish through which it acquires a more residual presence, the tactility of external weathering contrasting with the visual refinement of the interior.

The additions are conceived as temporary in deference to the timeless ruin they inhabit, yet through the rational precision of their arrangement and construction they acquire an unsentimental quality of their own. The carefully considered arrangement of stairs and access ways in the interior exploits the spaces in between new and old, highlighting the proximity of the rough stonework.



Aerial view. The distribution of rusted steel walkways and inserted elements in the courtyards, renovated towers and the bishop's palace, form an integrated narrative within the enclosure of the stonewalled castle.



Within the southeast tower, the stair winds round an inserted cylindrical volume to arrive at circulation gantries projected from the main enclosure above.



The rational precision of the steel-framed cut mesh spiral stair enclosure in the southwest tower is inscribed into a newly inserted floor plate.



Circulation rationale and balustrade detail: the mesh-sided rusted steel walkways are set away from, and lifted above, the adjoining stonework.

Nursery School, Formicola, Caserta

Beniamino Servino

1990–

Beniamino Servino is a *malgré soi* 'radical'. His designs are the outcome of an overt friction between his Rational culture and the dirty, formless and partially illegal territory of his childhood in the province of Caserta, near Naples, where he still lives and works.

The nursery school in Formicola remains a work in progress. For almost 20 years its development and building process has been uneven following the vagaries of piecemeal regional funding, in 1990, 1997 and 2004. The project is situated between the last houses at the edge of the village and a wooded hill.

The single-storey building has been designed to accommodate 30 children. It develops around two courts whose open boundaries are constituted by two travertine and aluminium 'T' elements. The walls are substantive – revealed in the deep apertures to the outside and the interior of the courts – and faced with dry-coursed brickwork. The front to the street is split into four pieces of wall: two executed in brick, with a travertine *registro*, and two rendered. An overhanging roof is established as a linking element between the two sides – one identified with the perimeter of the site and the other with the inset brick blocks of the school.

Servino's architecture is the expression of a paradox. An architecture of bare essentials it resists an encroaching everyday banality, sensitive to the latent qualities and temporality of its context. While Aldo Rossi's row houses in the Italian countryside were seen as an unmediated reflection of rural poverty, and his schools as a critical comment on the nature of institutions, Servino's attention to materiality endeavours instead to salvage something from nothing: 'I renounce invention as an original moment of composition. It is the fabric that interests me, not the monument ... the fabric has the same structure as a popular story ... I am interested in the stratification on the surfaces of architecture' (interview in *Domus*, January 2005).



The sweep of the flattened curve to the concrete perimeter wall meets the simply planned block of the school at an offset entrance.



Entrance detail. Concrete, brick and travertine together form the everyday rationale of the school's construction.



Ground-floor plan. Planned in the form of two linked parallel blocks, a column and lintel stand at the threshold to each courtyard to define the school as a single entity.



Each opening into the school incorporates a single column – an architecture reduced to essentials.

Nursery School, Covolo di Pederobba, Treviso

C+S Associati

2005

This design, by Alessandra Segantini and Carlo Cappai, was developed from an obsessively nuanced study of children's perception as well as the topography of the local landscape. The school is thoughtfully integrated into the layout of the village of Covolo di Pederobba, and framed by the wider countryside of the Veneto. Set out beside the Piave River, between wheat fields and rows of vines, the tree-lined boundaries incorporate a homogeneous rural architecture characterised by a predominant use of stone.

The founding element of the building is the wall – a raw concrete enclosure whose exposed reflective aggregate catches the light and opens up to a south-facing patio overlooking the adjoining garden and fields. This choice maps the school as a territory constituted by buildings typically closed to the road, presenting walls without apertures as their public face. The architects also refer to the contrasting outlook from *barchesse* – the barns with porticoes typical of the region – as a precedent for opening up the school to the landscape.

The allocation of interior spaces takes into account social relationships rather than a strict separation of functions. Against the austerity of the external landscape these spaces oppose a complex set of perspective views and colours whose consistent tones and particular location configure a warm experience of schooling (epitomised by the red-walled and paved court). Windows at child's height, full-length sliding doors, apertures lined in timber to encourage occupation as seats, and continuous glazed openings offer a narrative of different conditions, intimate or open to the landscape, shaded or brightly lit.



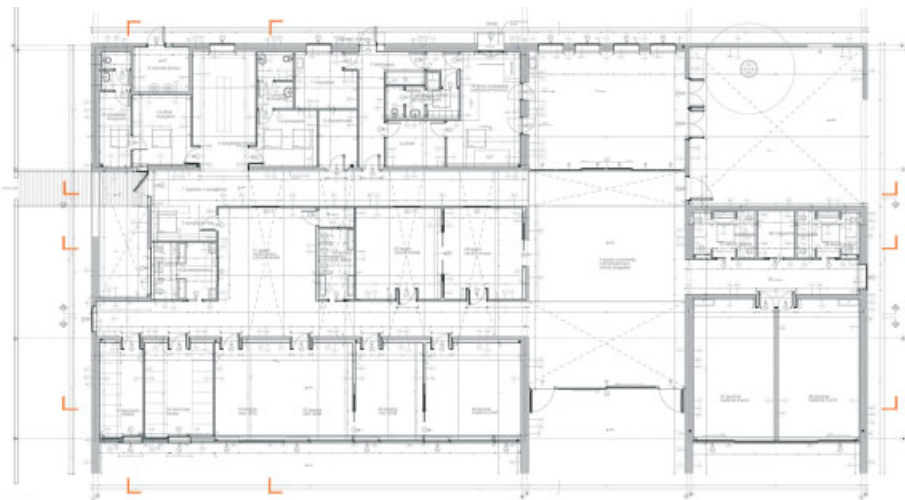
Teaching spaces line the openings formed by the two concrete enclosures, inset slightly and lined with gravel as thresholds to the adjoining landscape – communal spaces are identified with the rust-red roof profile above.



The main activity space frames a view of the village beyond, with the coloured sections of wall identifying different relationships within the school.



The rational simplicity of the main space contrasts with the offset distribution of mid-tone colours.



The plan takes the form of a tripartite composition enclosed by a rough-cast external wall to the north, with teaching spaces located to the south; the main activity space occupies a bay between cross-walls, separating the school into two distinctive parts, one reflecting the other.

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An Interview with Giorgio Grassi

In January 2007, Lucia Tozzi visited Giorgio Grassi's office in Milan. Their conversation touched on Grassi's recent work on Leon Battista Alberti, which is examined here in the context of Grassi's obliquely expressed views on contemporary architecture and the cult of personality. As perhaps the most intellectually rigorous and formally consistent Rationalist architect of his generation, Grassi's work and thinking retain a hermetic aspect, but one notable for its philosophical self-questioning and underlying political commitment.



For an architect as I am (limited, because I have imposed myself strict boundaries since the beginning, and irreparably deformed, because I have now taken the shape of those boundaries), talking about Leon Battista Alberti, his thought and his works, means talking beyond my own inclination, even, about what relates me to his work – that is, what relates my work to his work. And this is certainly neither the best nor the most objective way to treat somebody like Alberti. Yet, it is the only way I can do it.

Giorgio Grassi, *Leon Battista Alberti e l'architettura romana*¹

Giorgio Grassi's recent book, from which this quotation is taken, provides a key to understanding his relationship with Alberti's work, while also alluding to his own contemporary predicament. Today Grassi confronts a culture (or worldview) that has removed, one by one, all the basic elements of Alberti's thought, and first and foremost his conception of architecture itself. In the age that has sanctioned, for better or worse, the triumph of interdisciplinary approaches, Grassi has underlined ever more strongly the principle of autonomy, claiming the extraordinary consistency of his work as the consequence of an absolute 'need'. At the same time, his writing clearly demonstrates that he is well aware of the insistently subjective nature of this 'need' and of the obsessive character and inhibiting power of his theory of architecture – at least as it impacts on his practice.

The comparison with Alberti does not stem from a pure passion for his architecture:

'There's nothing of Alberti's architecture that really touches me, that can actually transform sincere enthusiasm into emotion, unlike, for instance, Sant'Ambrogio in Milan.'²

It comes instead from identifying with Alberti's intellectual rigour:

'I like doing things after speaking, because it is the way I work, clarifying in the same way in writing the procedures required to define a formal choice in design.'

He elaborated on the psychology of this methodology:

'In a certain sense, it is also a form of self-defence, which comes from a general sense of insecurity that I have engendered for myself. I am conscious I have built a very restricted and limited world: it is the one that suited Alberti, too, who speculated about only three topics and worked on them alone.'

Researching Alberti's exemplary architectural persona enables Grassi to overcome historical contingencies in bringing our view back to a perspective free from the 'creative' imperatives of Postmodernism and contemporary notions of hybridity.

The element of Neorationalism likely to remain obscure to those more familiar with Rem Koolhaas' Junkspace is the political meaning of self-referentiality in architecture. Today,

this term has acquired a very negative connotation. It is now viewed as synonymous with formal discretion (formalism) and an indifference to the social and urban context of architecture and the needs of its inhabitants (and clients). A current preoccupation with self-referentiality is associated, instead, with the architecture of celebrity, the habit of branding different buildings under a single label (logo), and an exaggerated concern with symbolism and icons. This paradoxically alludes to a situation where the imperative of 'communication' prevails against the specifics of formal architectural character, in assuming the empty shape of marketing. A new meaning has literally clouded the previous one.

Consequently, social controversy, such as that generated by the ferocious political attack on the 1950s real-estate economy or on the class of professionals 'who used to follow the rules without a murmur', scarcely deserves a mention in the writing and theories of Grassi, or the other protagonists of Neorationalism. Their strong roots in the culture of academe were epitomised by two seminal experiences, that of the IUAV (University Institute of Architecture Venice) associated with Giuseppe Samonà and of the University of Pescara, during the 1960s and 1970s. Given the relatively few projects they actually managed to complete and the international impact of a supposedly 'scientific' production of architecture, the Italian Neorationalists gradually developed the reputation of a galaxy of refined intellectuals. Indeed they came on occasion to represent an overtly reactionary position, a perception strengthened by the contrasting mythology of activism surrounding the violent protests by radical students in 1968.

The attempt to define architecture as an 'autonomous' phenomenon – the expression of immutable principles and rules, susceptible to 'scientific' analysis – has been, in certain respects correctly, understood in relation to Structuralism: to Heidegger's *techné* and to the Rationalist heritage. On the other hand, the political challenge it used to embody has been progressively losing its relevance, and it is no longer an active ingredient in Italian architecture.

In Grassi's view, removing the licence of individual 'creativity' and the distraction of contingent aspects from the practice of the architect requires the application of a scientific rigour (or a surrogate scientific methodology) to design practice. This is intended to preclude any falsification of the ethical or qualitative limitations of the work in hand. If the architect is free to appeal to the imponderable nature of artistic gestures, or to be distracted by negotiating countless external issues, he or she is no longer able to defer the questions proper to architecture, and is forced to assume individual responsibility for his or her work.

Giorgio Grassi, Roman Theatre, Sagunto, Valencia, Spain, 1994

A reconstituted Roman column at Sagunto juxtaposed with Grassi's brick piers – a standoff between the archaic and contemporary.

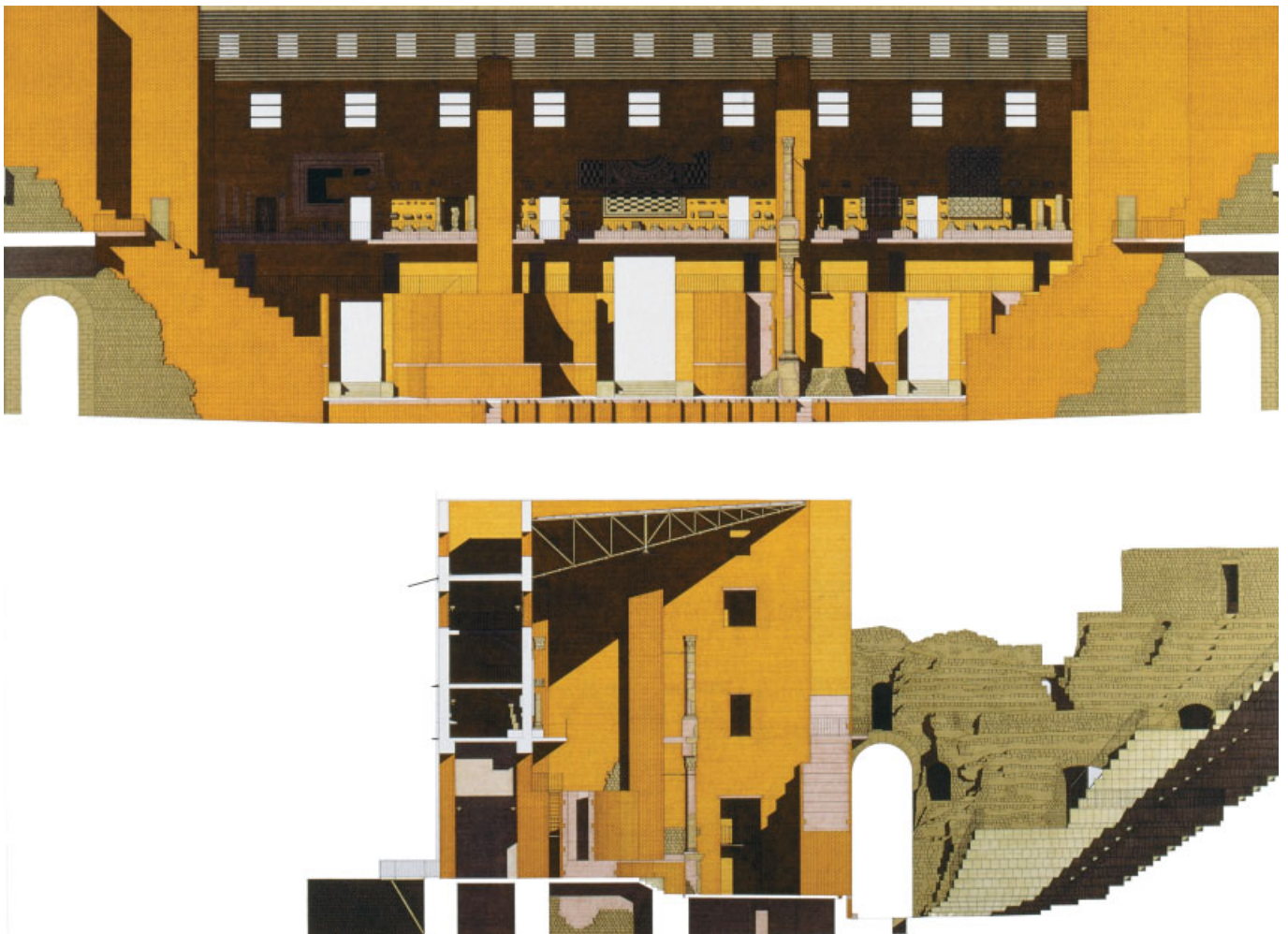
This conviction about anonymity and the everyday ordinariness of the buildings 'designed' by like-minded Neorationalist architects had a moral and social connotation that clearly distinguished it from artistic and literary theories of the 'death of the author'. Very likely, this intransigence was in fact one of the fundamental restraints on the diffusion of Neorationalist thinking. Grassi remains determined to emphasise the *engagé* motivation of his thought:

'We addressed the social issue in the "INA Casa" quarters that were built in the most rigorous and somehow the most squalid way not to hide the underlying problems. Since that time, I have always defended architecture produced by anybody, from architects, first of all, and then from less self-conscious builders or designers, which increasingly plays down the question of the author's signature. The situation has reached the point now where even not being recognisable is an element of distinction: if everybody makes odd things, then even a normal house with two windows and a door is a signature. As for myself, I don't even know

whether my architecture is good quality, but certainly in places like Potsdamer Platz, where anything goes, my line of normal houses offers a degree of stasis, of visual relief.'

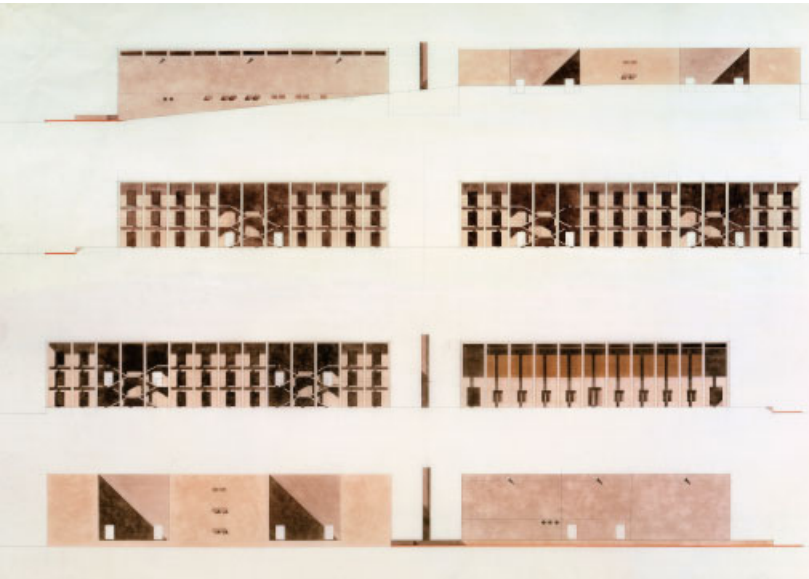
The event that marked Grassi's highest level of political engagement was, curiously enough, the reconstruction of the theatre of Sagunto in Spain. This is a work that, 20 years after its inception, is still, ironically, under the threat of demolition. The idea of reconstructing a Roman building as if it were an 'artificial ruin', without propagating the idea of a Romantic renovation or proposing the juxtaposition of a contemporary structure completely alien to the architecture of antiquity, fed a debate that was, Grassi argues, not theoretical at all. The ups and downs of his construction project, currently sentenced to demolition, have produced a heated confrontation, not only among local political interests, but between the politicians and their citizens .

The theatre at Sagunto is, however, an isolated case. What followed more generally was the marginalisation, within and without the profession, of the Neorationalist phenomenon.

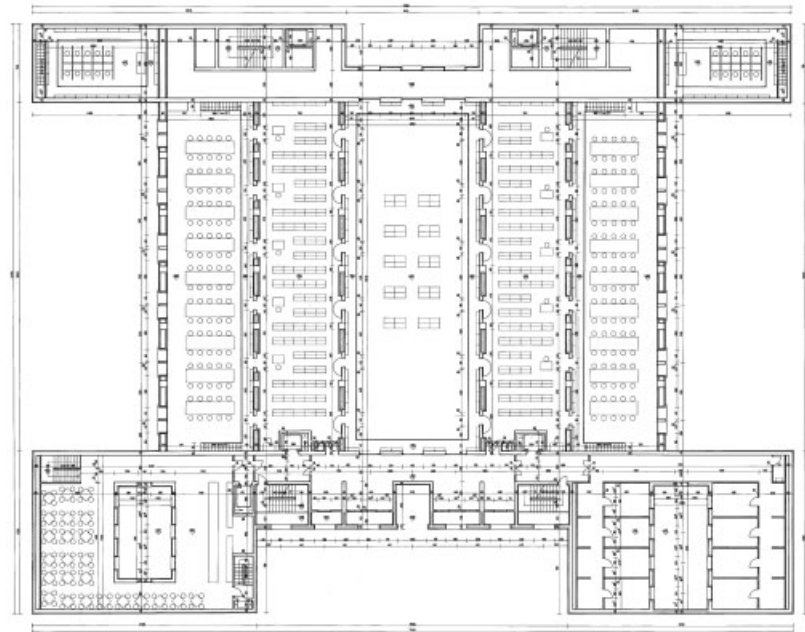


Giorgio Grassi, Roman Theatre, Sagunto, 1994

Stage front elevation. Grassi posits an unstable equilibrium between the evidence of destruction and the impossibility of reconstruction.



Giorgio Grassi, Student Hostel, Chieti, Abruzzo, 1976
Rendered Elevations. The application of a 'scientific' objectivity to the practice of design.



Giorgio Grassi, University Library, Valencia, 1998
Typical floor plan. The epitome of formal clarity.

This began to erode, albeit more slowly, a hegemony in Italian schools of architecture that aspired to transmit an objective and universal knowledge able to transcend the workshop mentality in the studio.

Extrapolating from the architectural trends that have gained the upper hand in the last decades – where the increasingly sophisticated technologies of surface wrapping affect a sensory reflexivity clearly at odds with Grassi's

thinking – we cannot help but think that the primary cause of this rejection is an excess of Puritanism. Not only formally but also culturally, this pervades the work identified with Neorationalism in architecture. It presents a characteristic severity difficult to accept in any circumstances. And, associated with a didactic (if not doctrinaire) process of self-criticism pursued to its logical conclusion, this inevitably produces a general sense of personal and social paralysis.

Manfredo Tafuri's writing was prescient in this respect. In his *History of Italian Architecture 1944–1985*, in the chapter entitled 'Rigourism and Abstinence', he wrote: 'It is significant that ideas like Grassi's can be evaluated in contrast with the evil contemporary city. Silence can, of course, be resounding when surrounded by noise; it remains to be seen whether that silence can really express something besides the simple will to know, and whether the testimony it offers can have more than the mere value of a symptom.'³

As Tafuri suggests, confronting the question of the 'contemporary city' is to experience the widest schism between Neorationalist theory and its applicability (then or now) in real terms. The claim to solve the complexity of the urban metropolis through purely architectural solutions – in analysing urban typology and the grain of the city to produce a rational and (supposedly) consensual framework that should be consistently followed as a model – is today unthinkable. It is out of key with the fluctuations of contemporary politics, whatever the political perspective adopted.

Grassi is perfectly conscious of this fact. Confronting the familiar apocalyptic vision of mass urbanisation – the explosion of cities and geopolitical imbalances in the era of globalisation – he serenely confirms that, from his point of view, the only solution is to defer experience, to imagine that all this does not exist:

'The modernity of Alberti's choice is then also its amazing, invincible, almost palpable 'out-datedness' despite everything, despite the novelty of what he says and what he does, well, just for that, actually. Its "out-datedness" has nothing to do with the passing of time. It is rather an attitude, a trend to clear-headedly and bravely face one's fate; which is exactly the opposite of longing for different conditions for the world, oneself or one's work. In fact, it is just thanks to this trend, as much insuperable as *ante litteram* quixotic, that one can face the conditions of our work overcoming them, safe despite everything.'⁴ Δ

Translated by Livia Grasselli

Notes

1. Giorgio Grassi, *Leon Battista Alberti e l'architettura romana*, Franco Angeli (Milan), 2007, p 13.
2. *Ibid*, p 148.
3. Manfredo Tafuri, *History of Italian Architecture 1944–1985*, MIT Press (Cambridge and London), 1989, p 142.
4. Grassi, *op cit*, p 155.

Concrete Constructs

The Limits of Rationalism in Swiss Architecture

Ákos Moravánszky explains why for him 'the traces of Mediterranean Rationalism in the new Swiss-German architecture are like the imitation stitching on the moulded plastic dashboard of a new car'. It is an influence which, despite the undeniable impact of Aldo Rossi and the Ticino School at ETH Zurich in the 1970s, remains skin-deep, sharing little with the present in terms of ideology or the interpretation of the historic past.



Looking for Rationalist traces in Swiss architecture sounds like a search for barely visible signs of a past that has lost its power over recent developments, developments that are now the focus of international attention. Certainly Mario Botta, whose work is inseparable from the Rationalist movement, is today as active as ever – not only as an architect, but also as the director of the Accademia di architettura (architectural school) in Mendrisio. But architects in German-speaking Switzerland generally deny that this hereditary line of the *Tendenza* carries any great significance for the present. On the other hand, many representatives of contemporary Swiss-German architecture were students of Aldo Rossi and the Ticinese School professors who invited Rossi to teach at the ETH in Zurich between 1972 and 1974.

One would expect, therefore, to find more than just traces of Rationalism, particularly since it was originally formulated as a rigorous method based on typological research, rather than as a style that would affect only the surface of architecture. 'Rationalist traces' in this latter sense would have nothing in common with the original intentions of Rationalism; they would be merely skin-deep reminders of things past. Or, is the recent interest in atmospheres, in the sublime, in the pictorial aspects of architecture, a logical conclusion of the investigations started by Italian Rationalists more than 70 years ago?

The difficulty in finding an answer to this question lies in the double meaning of the term 'Rationalism' itself. Avant-gardism and Rationalism followed different threads of Enlightenment tradition. The avant-garde stressed the value of a logical, 'scientific' approach, free of past constraints of myth or religion and urging practices of scientific management and innovation. By contrast, Rationalism as a movement that emerged in the Italian context of the 1930s stressed the importance of historical continuity and the classical past and, therefore, its own birthright to an 'eternal present'. Already this simplified comparison suggests that avant-gardism was no less rational in its aims and methods than Rationalism was avant-gardist in its heroic posture and underlying political agenda.

Nothing illustrates the entangled threads of Rationalism and the avant-garde in Swiss architectural history better than the controversy between Sigfried Giedion and Peter Meyer, the most influential architectural critics in Switzerland during the 1930s. In his inaugural lecture as professor of the ETH Zurich in 1936, Meyer praised Rationalism's 'heroic spiritual stature'. It was, he said:

a drive for a fierce alertness, for an unerring clarity of thinking and for resolute action, aware of responsibility, carried by an impassionate will. This courage to observe and the readiness to draw the consequences is at the core of our entire European culture ... on this

Rationalism all the sciences and technologies are based, and it shapes our present situation both in a negative and positive sense.¹

Meyer's efforts to reconcile Modernity with tradition, and his notion of Rationalism as heroic, show a striking similarity to the Italian understanding of *razionalismo*, and Meyer – like most representatives of Italian Rationalism – embraced monumentality as the formal consequence of the Rationalist programme. Giedion, however, rejected any significance of monumentality for Modern architecture – a position that changed in 1943 when, with Josep Lluís Sert and Fernand Léger, he wrote a manifesto entitled 'Nine Points on Monumentality'.²

The Influence of Rossi

During the postwar years, concepts of Rationalism and monumentality underwent a re-evaluation under the influence of Marxist theory and the work of Ernesto Rogers, a mentor for a group of younger architects including Aldo Rossi. For Rossi, architecture involved an empathy for the *genius loci*, the insertion of something new that would contribute to the legibility of the city without what Nietzsche called an 'antiquarian' approach to history.

In the Swiss canton of Ticino, where the transformation of the Alpine landscape into an agglomeration of freeways, malls and office parks had upset the population, Rossi's critique of amnesiac Modernism was heard with particular attention. The political underpinnings were important, as the spread of concrete across the landscape was seen as the result of unchecked capitalist exploitation. Many Ticinese architects were members of the leftist party, Partito Socialista Autonomo (PSA). Tita Carloni, for example, an outstanding architect and teacher of the *Tendenza*, represented the PSA in the cantonal government of Ticino. This explains why these architects received almost no state commissions and why schools, commissioned by the local administration, became the most important field of their design work.

At the ETH Zurich, the aesthetics of Italian Rationalism had a strong presence due to the teaching and practice of Ticinese professors and assistants such as Flora Ruchat, Luigi Snozzi, Livio Vacchini, Fabio Reinhart and Bruno Reichlin. The significance of the Rationalist camp was then boosted by the arrival of Rossi as a visiting professor in 1972. Although his time as a studio teacher was relatively short, his influence was enormous. Jacques Herzog, Pierre de Meuron and Roger Diener were among those in his studio. Probably the most significant aspect of his influence was a growing critical opposition to an understanding of architecture as an empirical science based on sociological, anthropological or technological research. Rossi's emphasis on personal experience, memory and



Franz Füg, St Pius Church, Meggen, Lucerne, 1966

The architect's rejection of individuality here produced a building of transcendent simplicity.

imagination had a liberating effect on many students. He was invited to the ETH again in 1978/79 to participate in joint studios with Bernhard Hoesli and Paul Hofer; this time Marcel Meili and Miroslav Šik were among his students.

In the autumn of 1975, the architectural critic Martin Steinmann organised an exhibition of the work of 20 young architects in Ticino at the ETH Zurich with the title *'Tendenzen: Neue Architektur in Tessin'* (Tendencies: New Architecture in Ticino). Following Rossi's dictum, *'l'architettura sono le architetture'* (which might be translated as 'architecture is the product of past architectures'), Steinmann called for an architecture that would discover its principles by researching its own history as an 'inner reality'. In his later work as an editor of *Archithese* (the leading Swiss periodical of architectural theory in the 1970s, founded in 1972), Steinmann attempted to develop a programme of architectural realism based on the tradition of Swiss Modernism (Hans Schmidt), Rossi's Rationalism and Robert Venturi's 'populist' Postmodernism.

A very significant next step in the process of transformation of the Rationalism promoted by Rossi into atmospheric images was *'Analoge Architektur'* (analogous architecture), a term coined by Miroslav Šik to describe the work of his students. The term 'analogous' was originally used

by Rossi in connection with his book *L'architettura della città* (The Architecture of the City), published in 1966, and in his project *Città Analoga* (Analogous City),³ but the exact meaning of 'analogy' was never fully explained by Rossi himself. It seemed to sum up his understanding of a design method based on the observation of historical precedents and on Carl G Jung's theory of active imagination using analogies.

A similar approach characterised *Analoge Architektur*; the work tried to find a way out of narrow-minded empiric research and into the everyday, the realm of popular art forms such as comic strips and storyboards. It was a development similar to the ideas of the Independent Group and the Smithsons in London in the 1950s. The introduction of Venturi to Switzerland (with Stanislaus von Moos and Steinmann acting as the main protagonists) might suggest that there was a similar interest in the character of the lower-middle-class and workers' districts among the 'analogous' architects – which might appear as surprising, given the generally muted reaction to American-style Postmodernism in Switzerland. But, with Swiss cautiousness, the work of the *Analogen* keeps a distance, as much from the 'ordinariness' of the Smithsons as from the pale blue and pink, quattrocento *italianità* of Rossi or the neon lights of Las Vegas. The student drawings exhibited in the Architektur Forum in Zurich in

1987, and published by Šik, show how the narrowness of Zurich's workers' suburbs and the dim lights of the outskirts replace the Mediterranean colours and the grand perspective of Rossi's stage.⁴ The projects were made by well-known figures of recent Swiss architecture: Conradin Clavuot, Andrea Deplazes, Christian Kerez, Quintus Miller and Valerio Olgiati among others.

The Analytical and the Analogical

Still, it would be a mistake to explain the recent situation as a direct consequence of Rossi's presence in Zurich. In 1996, at the 14th Milan Triennale, new Swiss architecture was presented as a 'Minimal Tradition'. Its curator, Stanislaus von Moos, working alongside Karin Gimmi and Hans Frei, was tracing the presumed minimalism of buildings by Herzog & de Meuron, Diener & Diener, Burkhalter Sumi and Peter Märkli back to Max Bill's 'artistic concretion'⁵ – a very different genealogy indeed, since Bill's focus on scientific rationality strictly excluded any interest in popular forms of art, or in realism in general. For Bill, standardisation was a consequence of the designer's social responsibility, a position that can be compared to Rossi's affirmation of monotony as a result of a typological approach. Bill was involved in the organisation of the Hochschule für Gestaltung in Ulm, Germany, conceived as the New Bauhaus. He became the first rector of the school in 1954, and the introduction of the *Grundkurs* (foundation course) in Ulm, by Bill in 1955, and at

the ETH Zurich, by Hoesli in 1959, shows a similar approach to developing a visual methodology based on Gestalt theory. Was the appearance of Rossi at the ETH a reorientation, a realism directed against the formalism of an avant-garde that had started to lose its radicalism and political stance?

The formalism–realism bipolarity (a topic of intense debate in Switzerland) is an oversimplification. Under the influence of Socialist Realism in the USSR and Bill's artistic concretion, important figures of Swiss architecture, like Hans Schmidt, connected with questions of monumentality, standardisation and prefabrication. Writing the introduction to the collected writings of Schmidt in 1974, Rossi quoted Schmidt's remark: 'Flexible architecture is not flexible by itself; flexible is the life which enfolds in its interior' in order to oppose the 'pietist approach', the 'aestheticizing moralism' of the Functionalists.⁶ The (however short-lived) union in 1977 of the Swiss magazines *Werk* (the organ of the Swiss Werkbund and the Union of Swiss Architects) and *Archithese* (at the time a forum of post-Functionalist and Postmodern theory edited by Stanislaus von Moos), shows that the differences between analytical and analogical Rationalism were not irreconcilable.

The work of the Ticino group itself was much less monolithic than a first glance might suggest: while Snozzi used thick concrete walls, Vacchini was more interested in great spans and the appearance of lightness. Louis Kahn's architecture was very influential, but it was interpreted in different ways. Architects who leaned towards the



Christian Kerez and Rudolf Fontana, St Nepomuk Chapel, Oberrealta, Grisons, 1995
Rossi's influence on this building is evident, but its forceful form is radical.



Valerio Olgiati, School in Paspels, Grisons, 1998
Reason and intuition are here combined to produce an extraordinarily powerful result.

Functionalist traditions, like those belonging to the Solothurn School (Fritz Haller, Franz Füg, Hans Zaugg and Max Schlup), rejected individualism and insisted on a systematic approach, resulting in buildings of the utmost simplicity and, sometimes, transcendence, as Füg's Catholic church in Meggen (1966) demonstrates. Today, Swiss architectural theoreticians revise their earlier frameworks of interpretation, manoeuvring between Protestant and Mediterranean versions of rationality: one is scientific and economic, based on quantitative judgements; the other is political, a wise or even cunning negotiation between pros and cons.

Reassessments

A work such as the Oberrealta chapel by Christian Kerez and Rudolf Fontana (1995) seems to be indebted to Rossi's typological reduction, but even more to a radicalism that has nothing to do with any ploy in that Mediterranean sense. To reconcile these two readings of recent Swiss-German architecture, adjustments in the theory – reassessments of basic terms and concepts – are required. Martin Steinmann, whose approach to architecture was based on a semiological reading of architectural forms, speaks today of 'empty signs' and 'forceful forms' (*forme forte*) in connection with such buildings.⁷ Valerio Olgiati's architecture illustrates the difficulty of speaking about Rationalism in this context. He exploits rational design methodology, setting up logical rules and executing the results with the utmost precision – but the result of his very personal obsession with rationality is to be grasped by intuition rather than by reason.

Andrea Deplazes gives a very different interpretation to language from Rossi or Giorgio Grassi. Grassi spoke of architecture as a dead language because it conveys a feeling of loss.⁸ For Deplazes, the correct use of language is a *sine qua non* and, as in translation, the mediation of meaning and atmosphere is the real goal, which in turn might even affect

and alter the linguistic rules:⁹ how different to an understanding of architecture as analogous to a 'dead' language like Latin.

The traces of Mediterranean Rationalism in the new Swiss-German architecture are like the imitation stitching on the moulded plastic dashboard of a new car: they make sense only as a placeholder, directing our attention to a problem waiting for a new solution. Certainly, alluding back to an important stage in the development of Swiss architecture, such atavistic traces also make us aware of historical precedents. But there is an enormous difference between Rationalism and new Swiss architecture regarding the use of the past. For Rossi, the monotonous repetition of types and forms were signs of a timeless past where – as his *Scientific Autobiography* (1981) argued – only memory can serve as a guiding thread.¹⁰ Rossi's melancholy heralds the doom of architecture: what the architect thinks are the voices of history are in reality his own hallucinations. *Analoge Architektur*, too, bears the stamp of this solipsistic mood, like a 'vague dark wave' that threatens to silence any activist conceptions of knowledge and design, any suggestions that architecture should, or could, involve social action.

So to declare his architecture as 'constructs', Deplazes gave a radical twist to the anti-utopianism of the Rationalists. Instead of condemning constructs as distorted views of the world, documents of false consciousness, he demands that they be seen as the possibility of the mind, capable of transcending the determinacy of knowledge by its actual social situation.¹¹ To paraphrase his categories, neither the artist-architect (who places himself outside of the socio-cultural situation) nor the automaton-architect (who sees himself as a mere mediator of social demands) is able to do



Andrea Deplazes, House in Zurich-Riesbach, 1987
An example of Deplazes pursuing the inner logic of a design.



Bearth & Deplazes, Blumenthal House, Maienfeld, Grisons, 2007
The Blumenthal House is a product of Deplazes' search for a reflective equilibrium of influences.

We can say with Rossi 'l'architettura sono le architetture', but not in the sense he meant: not as a presence of the past in a dead language of architecture, but as a chain of experiments, as trials (and errors), as 'constructs' – ideologies or documents of 'false consciousness', even. As if something like a 'true' consciousness could exist. ▴

Notes

1. Peter Meyer, 'Die Architektur in den geistigen Strömungen der Gegenwart', in HJ Wörmer (ed), *Peter Meyer: Aufsätze 1921–1974*, Verlags-AG der akademischen technischen Vereine (Zurich), 1984, p 148.
2. J.L Sert, F Léger and S Giedion, 'Nine Points On Monumentality' (1943), in Sigfried Giedion, *Architecture You and Me*, Harvard University Press (Cambridge, MA), 1958, pp 48–51.
3. Carsten Ruhl, 'Im Kopf des Architekten: Aldo Rossi's La città analoga', in *Zeitschrift für Kunstgeschichte*, Vol 69, February 2006, pp 67–98.
4. Miroslav Šik (ed), *Analoge Architektur*, Boga (Zurich), 1987.
5. Stanislaus von Moos, 'Recycling Max Bill', in *Minimal Tradition: Max Bill and 'Simple' Architecture 1942–96*, Lars Müller (Baden) 1996, pp 9–55.
6. Aldo Rossi, 'Einleitung', in Hans Schmidt, *Beiträge zur Architektur 1924–1964*, gta Verlag (Zurich), 1993, pp X–XXI. Rossi's introduction was originally written for the Italian edition of Schmidt's writings: *Contributi all'architettura*, Franco Angeli (Milan), 1974.
7. Martin Steinmann, 'Obsessions: Conversation between Jacques Lucan and Martin Steinmann', in *A Matter of Art: Contemporary Architecture in Switzerland*, Birkhäuser (Basel), 2001, pp 8–25.
8. Giorgio Grassi, *Architettura lingua morta*, Electa (Milan), 1988, p 129ff.
9. Andrea Deplazes (ed), *Architektur konstruieren: Vom Rohmaterial zum Bauwerk*, Birkhäuser (Basel), 2005, p 9.
10. Aldo Rossi, *A Scientific Autobiography*, MIT Press (Cambridge, MA), 1981.
11. Heinz Wirz (ed), *Bearth & Deplazes: Konstrukte/Constructs*, Quart (Lucerne), 2005.
12. Andrea Deplazes, 'Error: The premise and potential of design', in Heinz Wirz, op cit, p 355ff.

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this: only the autodidact who works by trial and error, who is ready to recognise his own practice as ideological and is ready to abandon it for a new one, can be successful. To stress the a priori character, the inner logic of such design experiments, he speaks of error as the 'premise and potential of design', which stands in contrast with the approach of Rationalists who had a moral mistrust of any intention towards such transgressions, and emphasised the rule-governed status of cultural phenomena, including architectural design.¹²

Such new developments evidence a significant shift away from the analogical method of thinking, which was – not only in architecture – critical of theoretical schemes and abstractions, and focused on particulars, developing its ideas bottom-up, from details. Starting from existing conventions, it allowed no critical perspective. The development of this Rationalism points towards either a dogmatic kind of 'realist' ideology, or a narcissistic, highly subjective 'poetics', even if in minimalist variants. The alternative is a method that operates top-down, deductively, searching for a reflective equilibrium.

Selected Swiss Projects

Torsten Schmiedeknecht describes four Swiss buildings that adopt a formal language of Rationalist rigour to dramatic effect. Despite all being institutional buildings, they vary widely in their treatments interpreting a Rationalist vocabulary in very different ways, from the unstinting austerity of GWJ Architekten's UVEK Administration Centre to Andrea Bassi's intentionally playful La Maladière Primary School in Neuchâtel.



Interior view of one of the corners, showing the row of columns in the facade and a vertical circulation core.

Training Centre Classroom Building, Technical College, Baden

Burkard Meyer

2006



Site plan of the entire complex showing the classroom building on the right with the Meili building above the two new sports halls on the left.

The Bruggerstrasse School forms part of a composition of three buildings: the refurbishment and conversion of a former social centre for Brown Boveri & Cie (an electrical engineering firm now fused with the Swedish company ASEA under the name ABB) built by Armin Meili in 1954; a new sports centre containing two double pitches; and the classroom building itself. The fully glazed, 110-metre (360-foot) long, six-storey building occupies the northeast edge of the site, facing the road into Baden. The aim of the architects was to deliver a building which, 'converging towards a classicist understanding of architecture achieves a harmony and timeless perfection at the foundation of an open and social school model and creates a stimulating environment for teaching and learning'.

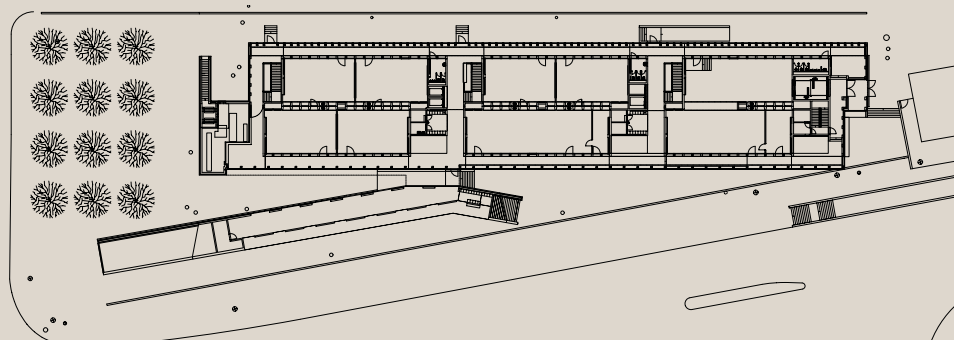
Accommodating teaching and practical training spaces for subjects such as electronics, vehicle mechanics and informatics, the layout is unconventional. The classrooms are located in the centre of the building and, interspersed with staircase cores, are accessed from the circulation corridors running between the teaching spaces and the outer facades. Controlled mechanical ventilation in the classrooms takes advantage of the corridors as climatic buffer zones, providing stable temperatures throughout the year and also preventing glare from direct sunlight in the teaching spaces.

The structure consists of five parallel rows of concrete columns (two rows in each facade, two in each interior corridor wall and one in the centre) running the whole length of the building, their depth partly accommodating mechanical and electrical equipment, and floor-to-ceiling glazing panels between the columns in each row separate the classrooms. However, this formal layout is also flexible, as the classrooms can be interconnected to accommodate different functions in future.

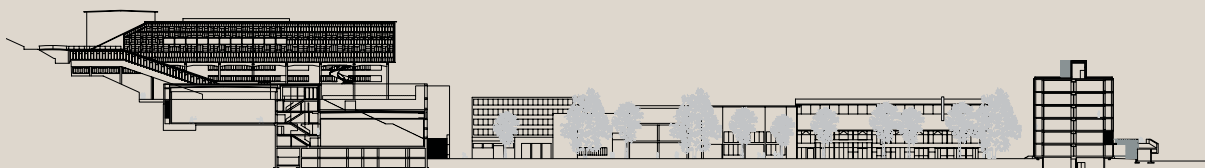
Externally, the storey-high glazing panels and bronze glazing profiles give a neutral character to the hybrid programme of the building.



The regular composition of the storey-high bronze glazing profiles.



Ground-floor plan showing the relationship between the classrooms in the centre, the perimeter corridor and the vertical circulation space.



Section through the classroom building on the right and the sports halls on the left, looking towards the Meili building.

UVEK Administration Centre, Ittigen, Bern

GWJ Architekten AG

2006



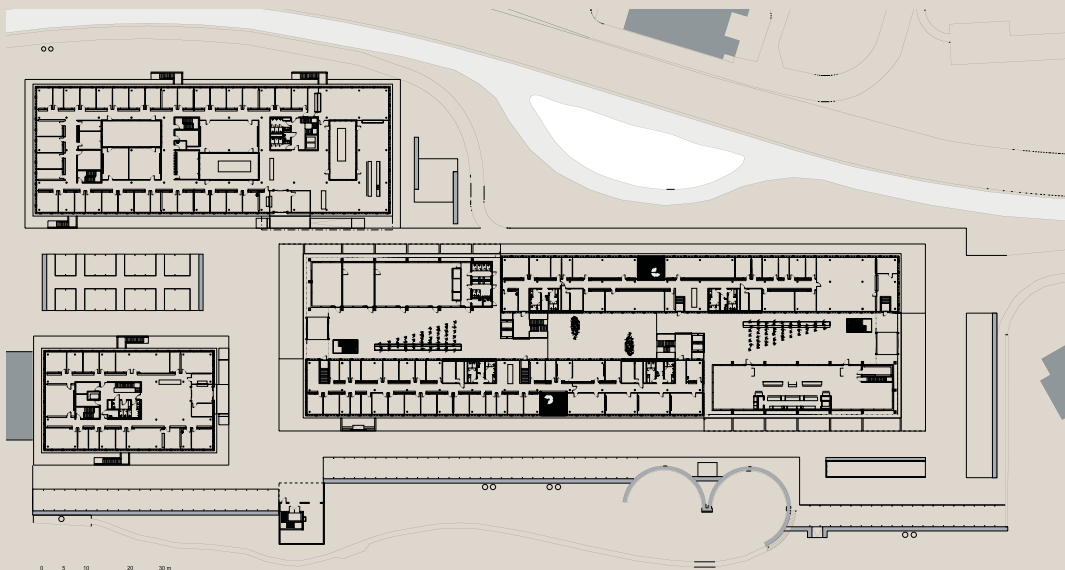
Corner view of all three buildings illustrating the repetition in the treatment of the external elevations in relation to each other.

Situated in a once heavily industrialised part of the Worblen Valley, the UVEK (Confederate Department for the Environment, Transport, Energy and Communication) development sits between the river Worblen to the north and a small, sloped wood to the south and consists of three buildings around a communal square.

In response to the client's request that timber should be used as the main visual element, and due to the lack of economically viable systems on the market, the architects developed a prefabricated glue-lam timber module based on a competition between a window manufacturer, a builder specialising in timber and a third firm providing both services. While the elevations of the three buildings are uniform and based on this module, each building is different in plan. Along the southern edge of the site sit the longest and the shortest buildings of the trio. The former consists of two double-loaded corridor arrangements, which between them share a glazed atrium over the whole length of the building. The latter is a simple block with a central core around which offices are located off a single-loaded corridor. The third building, on the northern edge of the site, includes three small courtyards and three cores at its centre, around which the office accommodation is arranged along the entire perimeter, off a single-loaded corridor.

Concrete floor plates for all of the buildings are supported by regular column grids and interspersed with solid cores. The floor plates are shown in the facades by the use of prefabricated horizontal cladding panels on which the timber lamellas rest; the full-height glazing panels sit between the floor plates and the timber lamellas.

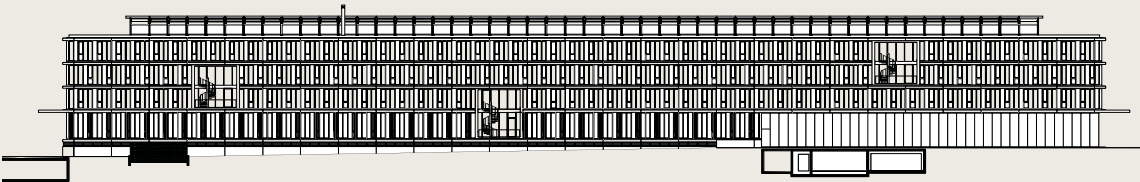
Despite the regularity and relative monotony of construction of the three buildings, they provide a multitude of different views, spaces and use options. In addition, the stringent repetition of the facade module is counterbalanced – unusually for office buildings of this size – by the visual dominance of the local Douglas fir.



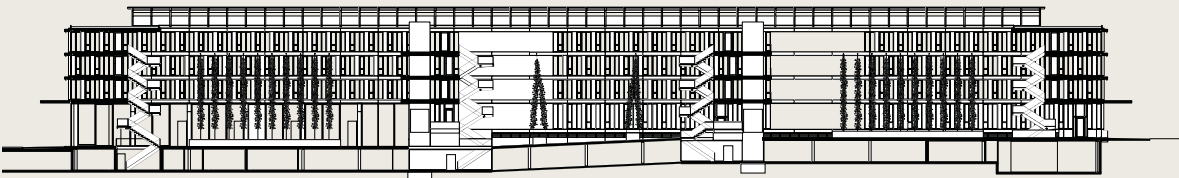
Ground-floor plan showing the context of the river location and the arrangement and different types of the three buildings.



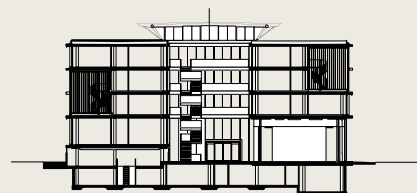
View of the atrium illustrating how the exterior continues into the unheated atrium space serving as a climate zone.



Elevation of the atrium building. The three double-height loggia spaces intersperse the rhythm of the facade.



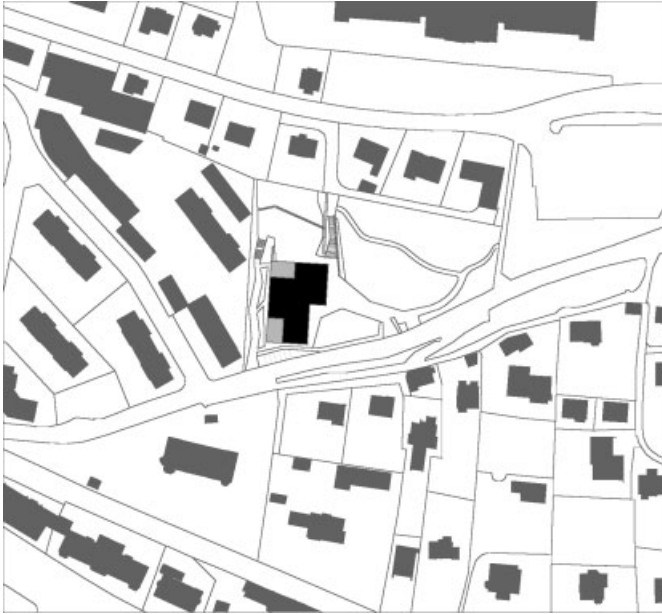
Long and short sections of the atrium building showing the treatment of the ground-floor height adapted to the topography.



La Maladière Primary School, Neuchâtel

Andrea Bassi

2006



Site plan of the school in relation to the public footpath across the site.

La Maladière Primary School occupies the southeast corner of the former Du Mail cemetery/park. The project negotiates the topographical conditions of the site – the covered playground below the cantilevered first floor is also part of a public footpath running across the site. And the elevations are articulated as a regular grid following the building's compact yet complex geometry, with fibre-cement panels, in three different tones, outlining the square metal-framed windows and expressing the structural steel frame. The classroom planning, however, provides flexible options: the interior partition walls are constructed as a dry-wall system allowing future changes to take place with minimum disruption. The three teaching floors and the sports hall in the basement are accessed via a single staircase from the entrance hall.

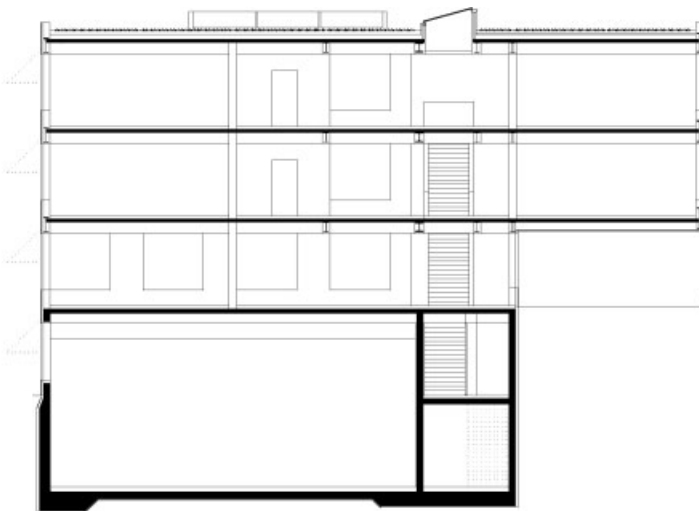
The building's volumetric appearance and gridded, skin-like facade appear to be independent of the internal layout. The colour scheme and materials – inspired by the context of the site – articulate the architect's idea of the building as a 'playful and shining object in the park, representing the lightness and openness of the school'. The rectilinear geometry and the flush facade detailing also suggest a desire to design the school as an object in its own right – rather than responding to, or directly translating, social or functional requirements. Each elevation has two corner details that alternate around the building and, together with the changing tones of the cladding, combine a sensuality of construction with the rationality of the grid within.



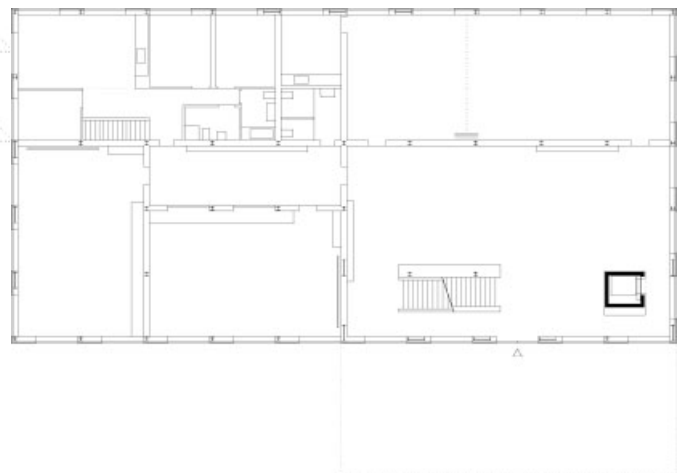
View from the north showing the cantilever over the main entrance, the building's volumetric composition and the two different corner details of the facade.



View of the building's southeast corner and the park entrance from the road.



Cross-section through the sports hall, situated on the lower level, and the cantilever over the entrance at ground-floor level.



Ground-floor plan showing the main entrance, circulation space and the distribution of class- and ancillary rooms.

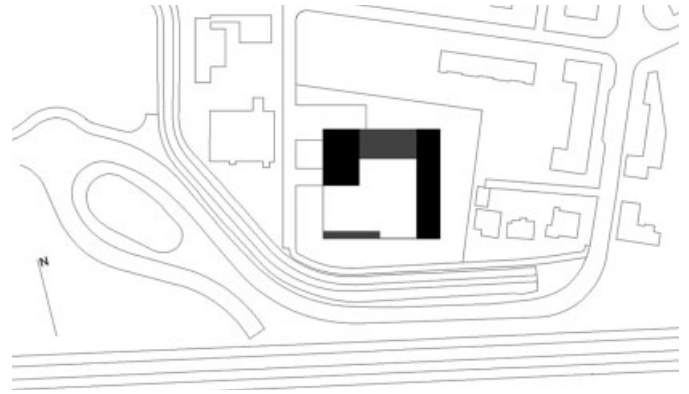
Reception Centre for Asylum Seekers, Kreuzlingen, Thurgau

Beat Consoni

2002

The Kreuzlingen Centre provides accommodation for asylum seekers for up to two weeks while their applications are being processed. The building is organised into a three-storey rectangular block on the eastern periphery of the complex and a four-storey, almost square volume to the northwest, both connected by a single-storey building along the site's northern edge. The three volumes house different functions and, together with a wall and a covered external space to the south, enclose a central communal courtyard. Given the individual articulation of the three buildings, the centre does not stand out from, but instead continues, the heterogeneous pattern and scale of the existing neighbouring buildings. Thus in its simple yet powerful composition, ordering its urban surroundings, the project reflects a concise economy of means typical of Beat Consoni's architecture.

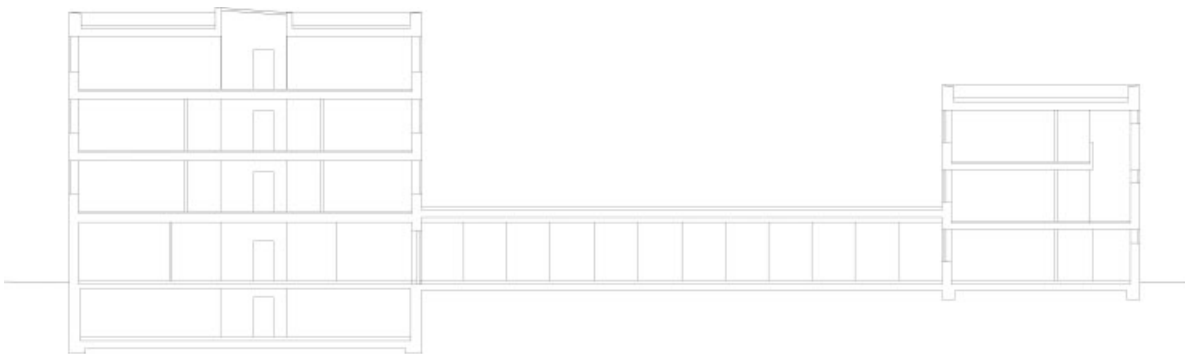
A concrete skeleton with prefabricated horizontal concrete panels alternating with black metal strip-windows dominates the centre's external appearance. Both interior (towards the courtyard) and exterior elevations are designed and executed with a high degree of economy and material precision. The ordered exterior is mirrored in the treatment of the internal spaces and surfaces, where the architects aimed to design a calm environment to offset the unsettling circumstances of the asylum seekers. Housing a complex and controversial programme, the composed volumes and the horizontal facade present a counterpoint to the intractable institutional procedures enacted inside.



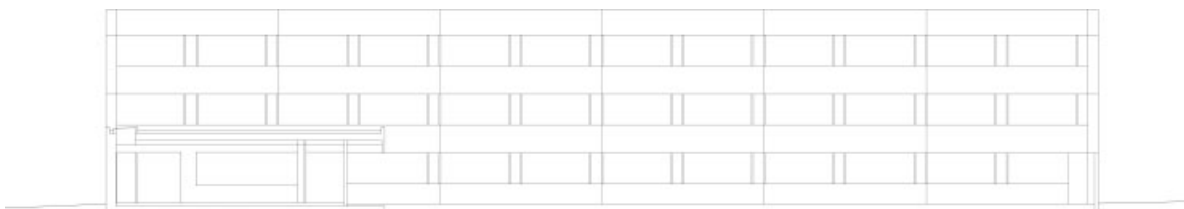
Site plan showing the distribution of volumes within the overall composition of the complex.



View across the perimeter wall and the covered external space towards the highest of the three volumes.



Cross-section through the three volumes showing the relationship between the connecting building and the two blocks.



Sectional elevation looking east showing the horizontal composition of the facade facing the courtyard.



View from the south across the railway line into the courtyard showing the overall composition of the volumes.



Prefabricated concrete panels on the perimeter wall and facades.

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Schinkel's Order

Rationalist Tendencies in German Architecture

Germany can be viewed as the natural home of the Rationalist impulse. Two of Germany's most influential architects, Karl Friedrich Schinkel and Mies van der Rohe, have been admired the world over for their sense of tectonic order and purist form. **Werner Durth and Roland May** trace a modern history of the tendency, which began with the early 20th-century rediscovery of Schinkel and has been continued to the present in the work of OM Ungers.



Defining Rationalism

Writing about the German Rationalist architecture of the last century is a difficult task. On the one hand the term 'Rationalismus', though rarely used in German architectural history, can be used for what internationally is referred to as Neorationalism. And on the other, until recently it has often been synonymous with Functionalism in referring to a short period in the first half of the 20th century.

Nevertheless, it should be emphasised that Rationalist tendencies can be found throughout the last century in German architecture. Consequently, the discussion here will assume two basic characterisations of Rationalist architects. The first is a profound belief in the meaningfulness of order in architecture. The second was given as early as 1923 by Adolf Behne in his book *Der moderne Zweckbau* (The Modern Functional Building), where he made a clear distinction between the Functionalist who 'wants what is absolutely fitting and unique for the particular case', and the Rationalist who aspires to build 'what is most fitting for general need, the norm'.¹

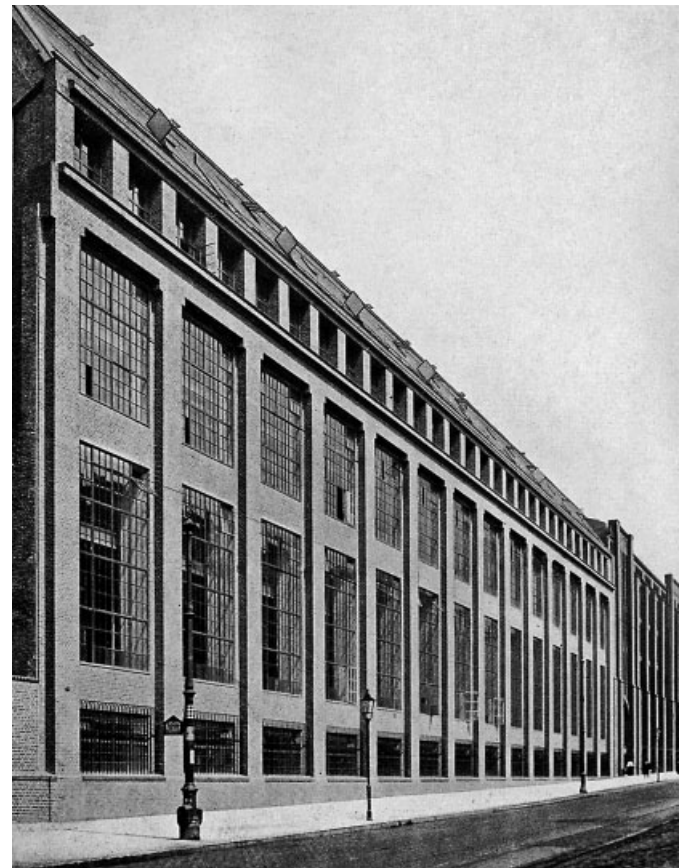
Schinkel: the Last Great Architect

Discussion of 'Rationalist traces' in German architecture cannot avoid the presence of Prussia's enlightening Karl Friedrich Schinkel, since the majority of the leading figures of both German Modernist Rationalism, and later Neorationalism, referred to his example. The origins for this retrospection in modern German architecture date back to the first decade of the 20th century. Many architects united in condemnation of eclecticism and Art Nouveau, which were seen as symbols for a fragmented and individualistic society identified with the rise of industrialisation. The search for a new purity and harmony tended to return (inevitably) back towards the period 'around 1800'² – a time that was increasingly seen as the last age of a harmonious society, and one that offered an unquestioned paradigm in the forthright persona of 'the last great architect', as Schinkel was described by Adolf Loos.

However, this view of Schinkel was myopic from the start. Scarcely anybody paid regard to the impulsive romantic who envisaged aspiring Gothic cathedrals, or the classicist concerned with the delicate ornamentation of his buildings. Rather, it was the reduced cubic forms of a 'Prussian' purity and order, emphasising structure and tectonic assembly like his Berlin masterpieces Neues Schauspielhaus (1818–21) and Altes Museum (1823–30), that attracted attention almost a century later. In particular his Bauakademie (1832–36), developed from a grid plan reminiscent of the mechanical Rationalism of JNL Durand, stood out as a model for the architecture to come.

Neoclassicism Revisited

The new Neoclassicism³ in German architecture around 1910 was undoubtedly centred in Berlin, with the precursor of



Peter Behrens, AEG factory for railroad materials, Berlin, 1912
Behrens' factory buildings for the AEG combined the legacy of Neoclassicism and the logic of engineering.

Modern architecture, Peter Behrens, as one of its main protagonists. Behrens' architecture owed much to Schinkel, especially in villas like Haus Wiegand in Berlin-Dahlem (1911/12). But he went much further. As co-founder of the Deutscher Werkbund, a liberal society that aimed to harmonise the relationship between art, crafts and industry, Behrens was also one of the first architects to draw on the rational world of the engineer for the renewal of architecture. His designs for office buildings and factories brought together both these 19th-century legacies and gave form to the paradigmatic challenge of building (*Baufaufgabe*) in the 20th century.

Behrens' work distinctly influenced two young architects who were working in his office during this dynamic period of change: Ludwig Mies van der Rohe and Walter Gropius. While Mies initially continued to follow the Neoclassical tradition, for example in the famous design for the Villa Kröller-Müller (1912/13), it was Gropius who had already in 1911 set a new benchmark with the Fagus Factory in Alfeld. This plain edifice not only showed the flexible combination of a skeleton frame structure with glazed curtain walls, but also emphasised an

Karl Friedrich Schinkel, Altes Museum, Berlin, 1830

Schinkel's masterpiece, strongly appreciated by Mies van der Rohe, was the perfect venue for the exhibition 'Mies in Berlin' in 2001/02.



Max Taut and Franz Hoffman, Trade Union Offices, Berlin, 1923

Despite some Expressionist elements, this office building is one of the first examples of German Rationalist architecture.

appreciation of technological beauty that would become essential for the further development of Rationalist architecture in Germany.

In the following years Gropius became the leading figure in an intense debate about the aesthetics of rationalised industrial structures realised by engineers. One of his most important supporters was Hermann Muthesius who played a key role in the first Werkbund exhibition at Cologne in 1914. While Gropius represented the 'new spirit' with a spectacular model factory (and office) building, Muthesius

postulated that only by standardisation (*Typisierung*) may 'a prevailing, reliable taste ... find its way'.⁴ The outbreak of the First World War not only aborted the exhibition but also, temporarily, this discussion.

Sobriety and Standardisation

Shocked by the demonstration of the apocalyptic power of modern technology, in 1918 even Gropius reverted to peaceful, craft-orientated utopias that marked the short but intense phase of German Expressionist architecture. This

formal and material excess was soon balanced by the formation of the Neues Bauen – the origin of what would later conquer the world as the International Style. However, at first the outstandingly sober forms produced by Gropius, or, especially, Max Taut, in the competition for the Chicago Tribune building (1922) did not readily find international acceptance. Yet in the same year Taut started work on his Trade Union Offices in the heart of Berlin which – despite some Expressionist flourishes – expressed a standardised reinforced concrete structure in the stacked frames that constituted its facades.

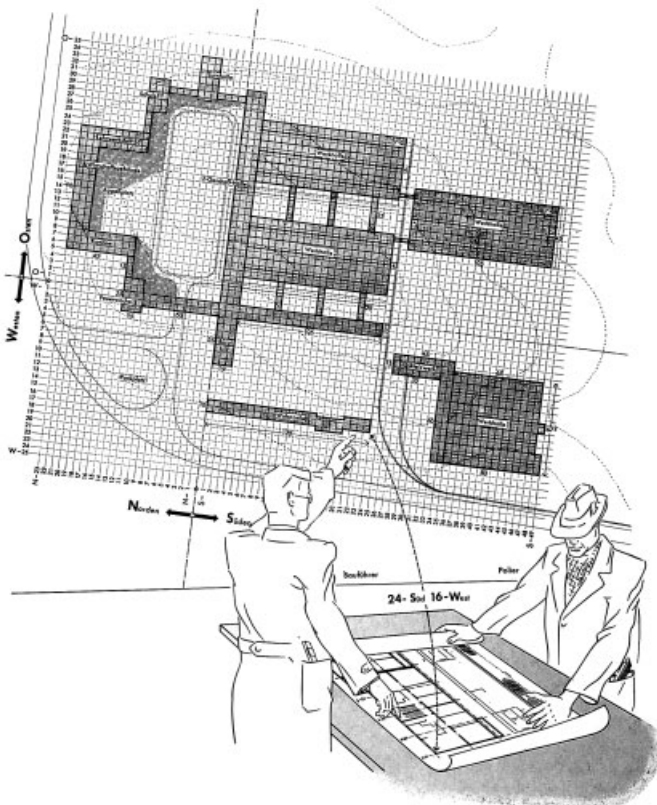
Throughout the following years Taut clarified this building concept (which after 1945 had a considerable influence on German architecture) in a series of other projects. Gropius, after the relocation of his Bauhaus school from Weimar to Dessau, went even further. Beyond a rationally planned architecture he also aimed to rationalise building processes. His first experiments were with the Siedlung Dessau-Törten (1926–28). This strategy was immediately taken on board in Frankfurt where city planner Ernst May had already implemented an extensive housing programme. May's final and most consequential project, Siedlung Westhausen (1929–31), was begun in the same year that he hosted the

second CIAM congress identified with the minimum dwelling ('Die Wohnung für das Existenzminimum'). The colony's rigid layout on a rectangular schema, its optimised floor plans and utilisation of prefabricated slabs, tried to give answers both to social imperatives and to the question of urban order, making it one of the most important contemporary examples of German Rationalist architecture.

Mies took a clearly different approach. Even though he broke with the Neoclassicist style around 1921, his intent to express clarity and objectivity in his buildings remained consistent. The most significant determining factor was his idea of construction or, rather, the visualisation of construction through a coherent tectonic treatment of a building's constructive elements. In this respect Mies moved increasingly towards a conception of multifunctional space. Even if this trend is most visible in the works he designed after his emigration to the US, already buildings like his famous Barcelona Pavilion (1929) could no longer be called Functionalist architecture. Although this tendency led to several quarrels within the German Modern Movement, both the Modernist architects identified with a Rationalist approach and those more associated with Functionalism (such as Hans Scharoun or Hugo Häring) formed a mutual opposition to architects preoccupied with further developing a traditional or regional architecture. Consequently, the major success for the avant-garde was the jointly organised *Weißenhof Siedlung* erected in 1927 in the context of the Werkbund exhibition 'The Dwelling' ('Die Wohnung') in Stuttgart, where the most influential traditionalist architecture school was to be found.

Nonetheless, the traditional faction of Weimar Republic architects produced numerous buildings deserving a Rationalist label. Even conservative architects like Heinrich Tessenow or Paul Schmitthenner designed purist buildings identified with straightforward geometries and standardised plans. In fact, around 1930, Modernist avant-garde architecture was already judged by many critics to be exhausted, and they identified the future of architecture in the form of moderate Rationalist buildings like Hans Poelzig's IG Farben Offices in Frankfurt (1931).

Circumstances worsened for Rationalist architects in the following years of atavistic irrationality under a Nazi dictatorship that identified with megalomaniac interpretations of Schinkel's Neoclassicism for state public buildings. Nevertheless, less noticeably young Rationalists such as Egon Eiermann maintained a broad field of activity in industrial building. Ernst Neufert, a former employee of Gropius, could even publish his best-selling *Architects Data* (*Bauentwurfslehre*), the epitome of standardisation, shortly afterwards in 1938 adopted for the rationalisation of housing construction by Albert Speer. In fact, Neufert's wartime concept of the 'octametre' system that became the basic norm for the postwar building industry could be interpreted as the most radical Rationalist contribution to German architecture in the 20th century.



Ernst Neufert, Plan of an industrial plant based on the Industriebaumaß (IBA), 1943

Neufert's basic 2.5-metre (8.2-foot) grid, developed from his 'octametre' system of 1941, is still the norm for industrial buildings in Germany.



Ludwig Mies van der Rohe, Neue Nationalgalerie, Berlin, 1968

The venue for the comprehensive exhibition of OM Ungers' work late in 2006, Berlin's New National Gallery became the symbolic meeting point of two generations of German Rationalist architecture.

Rationalism in the New Germany

After the war, normative Modernist architecture, partly re-imported from the US, was further consolidated, at least in West Germany. 'Officially' uncontaminated by the Nazi regime, this sober Rationalism served as an adequate architecture for a war-torn country. As early as 1930, one of its most influential protagonists, Hans Schwippert, had assisted Rudolf Schwarz in designing the exceptional formal purity of his Corpus Christi Church in Aachen. Schwippert's plain Parliament building in Bonn (1949) was later to become a central symbol of the 'new' Germany, alluding (so it seemed) in its simplicity and transparency to both humility and a democratic spirit.

A similar vein of thinking characterised the German Pavilion designed for the 1958 World Expo in Brussels (by Egon Eiermann and Sep Ruf). Pursuing a Miesian language throughout his career, Eiermann became something of a custodian for the Modernist tradition in postwar Germany, since its most important precursors had emigrated during the Nazi period. Furthermore, like the late Mies he was working with a distinct Rationalist approach, emphasising not only a strict order and the refinement of elegantly reduced construction, but the necessity to work with variations of basic types.

However, it was Mies himself who built the emblematic statement of German Rationalism, the New National Gallery



OM Ungers, Friedrichstadt Passage Block 205, Berlin, 1996

After reunification, Ungers' Neorationalism became the dominant architectural style during the reconstruction of Berlin's Friedrichstadt.



Karl Friedrich Schinkel, Bauakademie, Berlin, 1836, destroyed 1961/62
Following the reconstruction of a small model facade in 2001, the erection of a complete demonstration facade in 2004 gave a new impetus to discussion about the reconstruction of the Bauakademie.

in Berlin (1968). Mies originally developed his idea of a vast glazed space under a single roof-plane in 1957 for a different purpose: the Bacardi Headquarters in Santiago de Cuba. The origin of the design revealed a strictly Rationalist approach towards a form of comprehensive objectivity. Indeed the building may be interpreted as the modern equivalent of Schinkel's Altes Museum – a building one 'could learn everything in architecture from' Mies claimed in a 1959 BBC radio interview.

Yet, the critics of this conception of Rationalist architecture became increasingly vocal. In fact, the countless gridded facades that shaped the face of German cities in the postwar period were one legacy of Rationalist architecture. Another were the vast and monotonous prefabricated housing estates in the GDR – established under the hugely influential former employee of Gropius, Richard Paulick – themselves also the logical consequence of Rationalist concepts.

It was Oswald Mathias Ungers who, since the mid-1960s, in parallel with Aldo Rossi, took a central role in criticising this banalised 'purpose Rationalism' (*Zweckrationalismus*). Surprisingly, in returning to basic forms both found the solution to their quest for a new significance in architecture. By revisiting Rationalism, now understood in relation to the historical legacy of form and the urban context, new starting points for design replaced the technological imperatives of the Modernists. Unsurprisingly, Ungers based a good part of his argumentation – as in his principle of the transformation of morphologies – on Schinkel. Nevertheless, it took considerable time for Ungers and his devotees to gain a significant influence on German architectural culture. Meanwhile he had increasingly replaced his initial

inspiration, the diversification of individual themes, with an academic examination of the square motif. Thus over the years Ungers produced buildings that in their accurate order and cold perfection demonstrated more the influence of his former Modernist teacher Eiermann than they revealed about the derivation of the architectural forms themselves.

While, especially in southwest Germany, transparent 'technoid' forms in the tradition of Mies and Eiermann continued their consistent development (despite prevailing criticism), it was again in Berlin that, from the mid-1970s, Ungers' colleague and friend Josef Paul Kleihues prepared the ground for an emergent Neorationalism. The breakthrough came with the International Building Exhibition (IBA) of 1984–87 directed by Kleihues. His leitmotif of a 'poetic Rationalism' influenced much development, especially the phase of 'critical reconstruction' of the city plan after reunification, when Berlin's building director Hans Stimmann enacted an official design code for the city centre. Certain architects, mainly pupils and former employees of Ungers, like Hans Kollhoff, Max Dudler or Christoph Mäckler, took this opportunity to produce intriguing contributions in the form of a new, severe, stone-faced architecture of the European city, finally breaking with the postwar doctrine of a transparent, 'democratic' architecture.

More recently, German architecture has not only shown once again that there is only a fine line between Rationalism and Neoclassicism, but also that it is only a short step from critical reconstruction to literal reconstruction. When in 1961/62 the government of the GDR tore down Schinkel's Bauakademie, many renowned Modernist Rationalists like Max Taut protested publicly against this philistine act. Predictably nearly all the prominent Rationalist architects of the 'second generation' are members of the Berlin International Academy of Architecture. This institution, founded in 2001, has a clear order: to reconstruct Schinkel's Bauakademie. ▴

Notes

1. A Behne, *Der moderne Zweckbau*, 1923, Ullstein (Berlin et al), 1964, p 59. Translated in *The Modern Functional Building*, Getty Research Institute (Santa Monica, CA), 1996, p 138. Behne's definition of Rationalism also played a key role in the important publication *Architettura Razionale*, M Scolari et al (eds), *Architettura Razionale*, Franco Angeli (Milan), 1973.
2. The movement 'Around 1800' owed its name to a highly influential publication by the architect Paul Mebes (P Mebes, *Um 1800*, Bruckmann, Munich, 1908).
3. Unlike that of most other countries, German architectural history refers to the architecture around 1800 as Classicism (*Klassizismus*), while Neoclassicism (*Neoklassizismus*) is exclusively used for 20th-century architecture.
4. H Muthesius, *Die Werkbundarbeit der Zukunft und Aussprache darüber [...]*, Diederichs (Jena), 1914, p 32. Translation by the authors.

Text © 2007 John Wiley & Sons Ltd. Images: p 44 © Werner Durth, Darmstadt; p 45 from *Jahrbuch des Deutschen Werkbundes 1913 – Die Kunst in Industrie und Handel*, Jena: Diederichs, 1913, plate 2; p 46 © Akademie der Künste, Berlin, Max-Taut-Archiv, MTA-20-45; p 47 from Ernst Neufert, *Bauordnungslehre*, Berlin, Volk und Reich, 1943, p 119; p 48 © Stefan Müller, Berlin; p 49 © Literaturtest, Berlin, photo Stefan Abtmeyer, Berlin

Selected German Projects

In the last two decades, Rationalism has been revisited in Germany. As **Werner Durth** and **Roland May** demonstrate in these four projects it can provide very different strategies for dealing with often complex urban contexts, whether it provides: 'order for disparate surroundings' as in the Ohel Jakob Synagogue in Munich; a consistent vocabulary for the regeneration of a Modernist GDR housing scheme as at Thuringia; a representative elegance and inbuilt flexibility as at Frankfurt Airport's Terminal 3; or a means of reasserting the orientation and materiality of earlier buildings on an existing site as in Hans Kollhoff's Het Palais Condominium in Breda in the Netherlands.



Contrasting lightness with solidity, the synagogue's architecture is intended to reflect the complex history of Judaism.

Ohel Jakob Synagogue and Jewish Centre, Munich

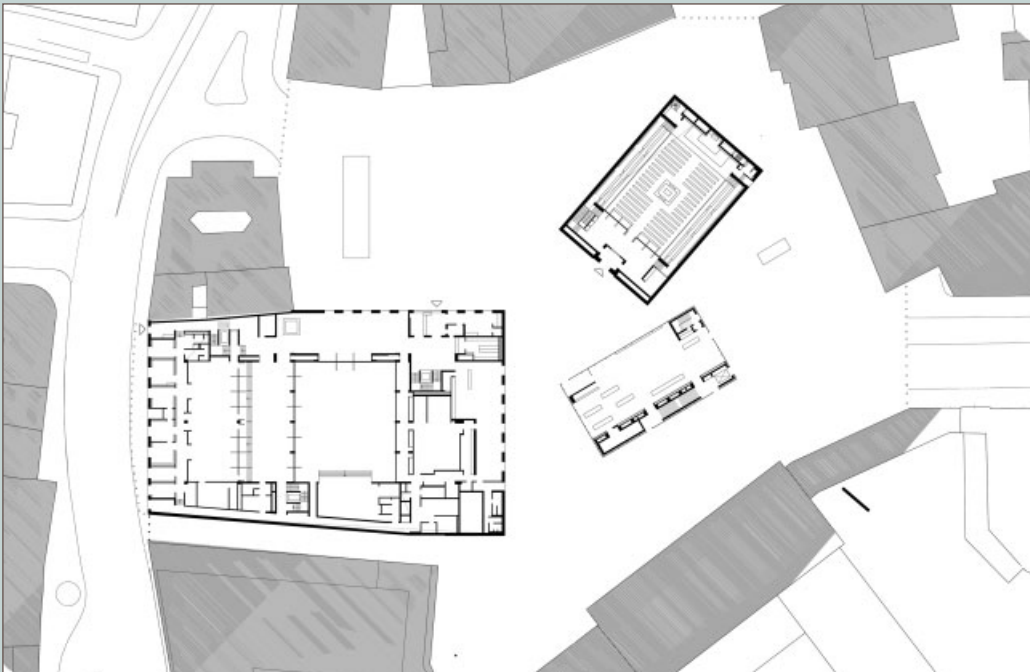
Wandel Hoefer Lorch

2007

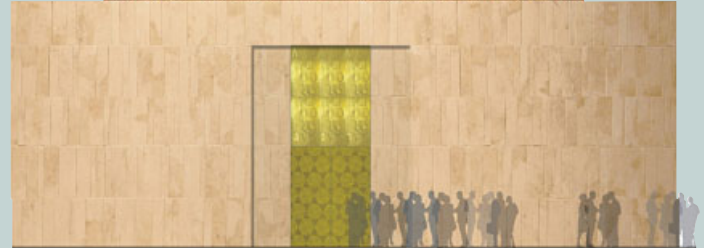
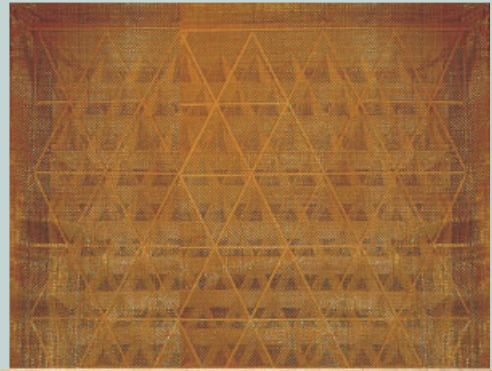
As elsewhere in Germany, the Nazis destroyed Munich's synagogues during 1938, and only a small Jewish community survived the Holocaust and retained an active postwar presence. A proposal for the construction of a new synagogue was not forthcoming until the late 1980s. And it was not until 2000 that the project, a cultural and community centre for the Jewish community, could be started at St Jakob's Platz, one of the last scars of war in the heart of Munich. Architects Wandel Hoefer Lorch, who had demonstrated their ability to deal with such a sensitive task with their new synagogue in Dresden, won the two-phase international competition.

Though informed by symbolic references, their stringent design can be understood as a rational answer to an emotive programme set in disparate surroundings. The complex comprises three individual buildings: the main synagogue, a community centre and a Jewish museum. The latter two buildings integrate the complex into its setting and act like a frame for the centrepiece of the composition, the synagogue.

Contrary to the initial expectations of the clients, the building does not refer directly to a traditional synagogue typology, but is an unostentatious assembly of two cuboids that create a precise and pure form. Despite its abstract geometrical clarity, the building is nevertheless highly symbolic. The glazed walls forming the upper cube are regularly subdivided into rows of equilateral triangles embodying the Star of David. Furthermore, their lightweight character reflects the provisional Tent of Meeting (sanctuary), memorising the Jewish diaspora. In contrast, the stabile base, faced in an orderly, though randomly coursed rough travertine, is intended to commemorate the Temple of Jerusalem, and with it the continuing presence of Jewish life.



Integrated into its surroundings, the synagogue, community centre and museum create a new urban presence on Munich's St Jakob's Platz.



The unostentatious assembly of two cuboids makes no reference to traditional synagogue architecture.



View towards the community centre with the museum (left) and synagogue (right) in the foreground. Despite the shared use of stone facing, each of the three buildings has been given a particular appearance.



Furniture and panelling in cedar wood create a warm atmosphere in the interior of the synagogue, which can seat more than 500 worshippers.

Eight Urban Villas, Leinefelde-Worbis, Thuringia

Stefan Forster Architekten

2004



New balconies not only enliven the facades, but also enhance living conditions for the tenants.

During the 1960s, Leinefelde developed into one of the main centres for textile production in the former German Democratic Republic. With the expansion of this industry the population grew exponentially (until the reunification of Germany in 1989), requiring the construction of a vast housing estate formed by multistorey blocks made of standardised prefabricated slabs.

After *Die Wende*, Leinefelde suffered the collapse of nearly all its industries, causing high unemployment, a considerable decrease in population, and residential dereliction in the former 'socialist model town'. However, in the mid-1990s Leinefelde was one of the first East German towns to develop a viable plan for deconstructing major parts of its socialist heritage, once again becoming a 'model city'.

Stefan Forster has participated in several projects in the city since 1996. In this, one of his most recent projects, he restructured a 180-metre (590-foot) long prefabricated slab block (built in 1973) by radically reducing its number of apartments. Forster's strikingly simple solution was to decrease the height of the building by one storey, and to create eight freestanding urban villas by dismantling every second staircase in the block. The remaining 64 flats, ranging from 39 square metres (420 square feet) to 84 square metres (904 square feet), were reduced to five basic types, all offering newly daylighted kitchens and bathrooms, as well as balconies.

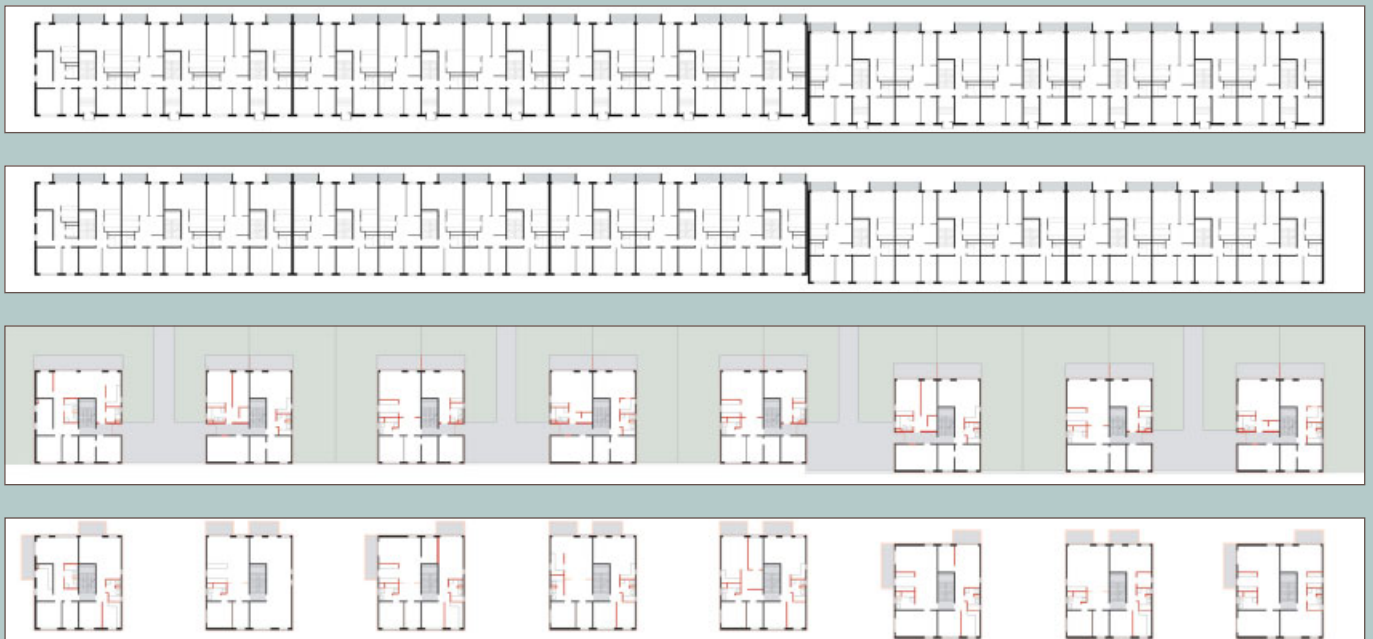
Forster's urban villas represent an unusual proposal for the sustainable enhancement of mass housing in shrinking cities, respecting the urban disposition and the Rationalist vocabulary of the former building.



Even though the number of flats was dramatically reduced, the new urban villas still respect the original urban disposition.



Especially on their eastern side, the new urban villas commemorate the Rationalist vocabulary of the former building.



Ground-floor and standard floor plans before and after restructuring. The restructuring process reduced the number of flats to allow for daylight kitchens and bathrooms.

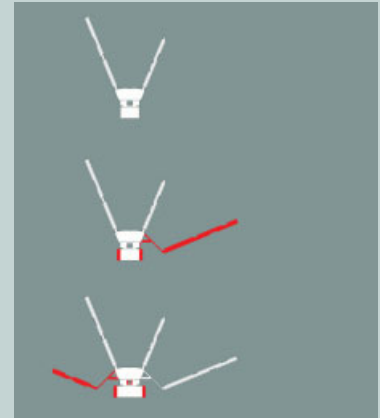
Terminal 3, Frankfurt Airport

Christoph Mäckler Architekten

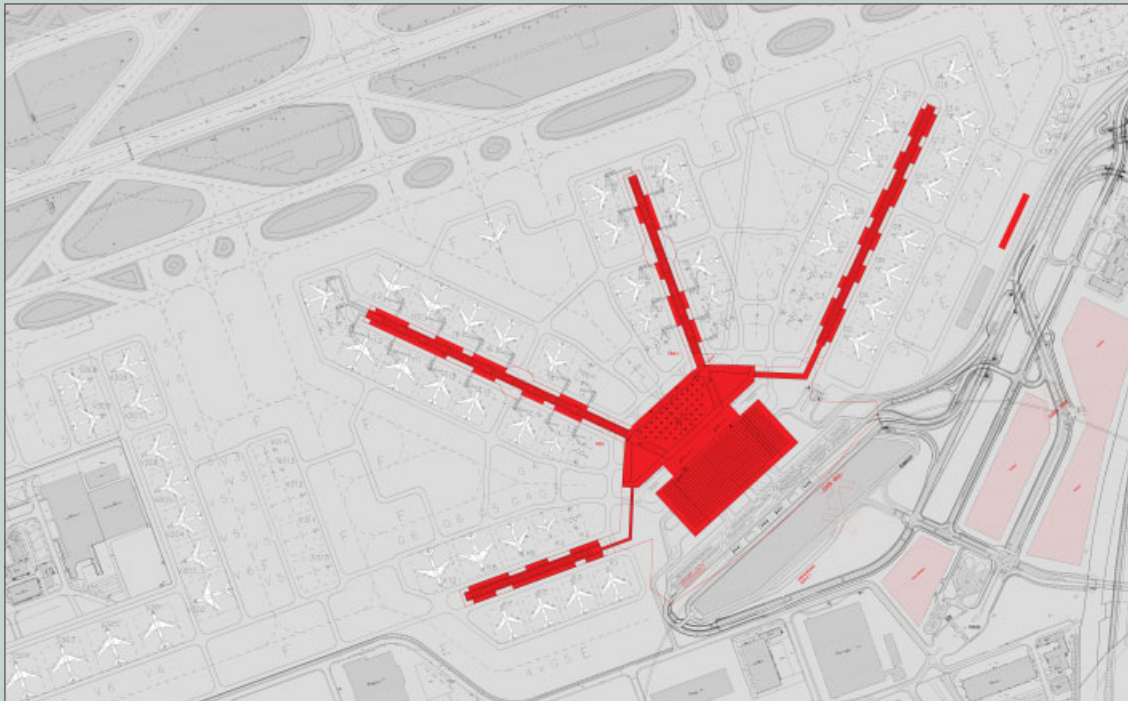
2005–

This major project for a third terminal at Frankfurt Airport forms a central part of the huge extension programme for one of Europe's busiest airports. Christoph Mäckler's concept of a 'growing beetle' pursues the idea of absolute flexibility. While the modular extension principle for the passenger piers marks a new departure in airport design, the architecture for the 'head' of the complex, the main hall, exhibits a sense of *déjà vu*.

Mäckler's architectural credo is based on the idea that architecture should again return to the concept of a *Bauwerk* (building), in contrast to a *Kunstwerk* (work of art). As a result, his multifaceted architecture developed in projects in Frankfurt am Main, like the redevelopment of the Opernplatz area (since 1999) or the exhibition hall 'Portikus' (2005/06), has shown a growing predilection for formal reduction, but one mediated by the concept of *genius loci*. For an airport, envisaged as a 'dislocated' place, in his own words, Mäckler found his ideal in the timeless simplicity of the great interiors of Modern architecture. The similarities to Ludwig Mies van der Rohe's Neue Nationalgalerie in Berlin, one of the centrepieces of German Rationalism, are obvious. However, the entrance hall of Mäckler's Terminal 3 is more than a blueprint. Besides its representative elegance, the big roof structure formed by orthogonally positioned trussed girders makes it possible not only to extend the building without interfering with the airport's routine operations, but also to avoid the cacophonous enlargements that airports characteristically accommodate over the years. Thus the architect not only refines Mies' modular system, but also demonstrates its practical reuse.



Mäckler's concept of a 'growing beetle' intends to install all the necessary infrastructural systems in the first phase of construction, avoiding complex modifications during future enlargement.



Site plan. In contrast to the two existing terminals, the new Terminal 3 will be located south of the two main runways of Frankfurt Airport, where it will replace military installations of the US Army.



The vast glazed entrance hall under a big roof structure exhibits a sense of *déjà vu* in referring to Mies' New National Gallery in Berlin.



Future enlargements of the entrance hall have already been taken into account and should follow the logic of the original building.



The representative entrance hall is intended to follow the ideal of a timeless simplicity, characterising the great interiors of Modern architecture. Whether this basic idea will still be perceivable once the hall has filled up with commercial outlets seems to be questionable.

Het Palais Condominium, Chassé Park, Breda, The Netherlands

Hans Kollhoff and Helga Timmermann

2006

While Hans Kollhoff has been one of the most influential architects of the 'new' Berlin in recent years, the luxurious Het Palais, one of his most intriguing works, can surprisingly be found in the Netherlands. An exported 'representative' example of Berlin's Neorationalism, the edifice forms part of a vast 13-hectare (32-acre) development of the Chassé Park in the grounds of a former military complex close to Breda's historic city centre.

In 1996, Rem Koolhaas and Xaveer de Geyter of OMA developed a well-publicised plan for this site that was regulated by only a limited set of basic guidelines: forbidding private gardens and emphasising primary facades to avoid backyard conditions. The result was an unusual campus setting in which autonomous architectonic objects are spread loosely over the extent of the site, emphasising their relation to the surrounding 'landscape'.

In a subtle comment on the irregularity of the concept, Kollhoff – ironically, like Koolhaas, strongly influenced by OM Ungers – contradicts the urban layout with a clear reference to the orientation and materiality of the former Chassé barracks, the main building on the site. Reminiscent of Aldo Rossi's *architettura metafisica*, the austere complex consists of a high central building, supported by two rectangular, offset elements, leaving open the vista towards the main entrance of the barracks. Resting on a base faced in blue natural stone, the grid-pattern facades in local brick are structured by pilaster-like elements, exemplifying 'the severe task of architecture'.



Positioned in the middle of Breda's Chassé Park development area, Kollhoff's apartment building is a subtle comment on the irregularity of the urban concept.



Formed by two three-storey building elements and a rectangular central edifice, the austere complex evokes Rossi's *architettura metafisica*.



The elevated central building leaves open the vista towards the main entrance of the former Chassé barracks.



Only divided by a cornice, the high central edifice rests at both sides on the lower side wings, which are structured by the same grid-pattern.



Resting on a base faced in blue natural stone, the grid-pattern facades in local brick are structured by pilaster-like elements.

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Rationalist Practice

Max Dudler

Max Dudler's buildings, conceived as apparently autonomous and self-referential objects, nonetheless demonstrate a reciprocal relationship with the city and have, over the past two decades, presented a consistent Rationalist approach. Born in 1949 in Switzerland, Max Dudler studied architecture in Frankfurt/Main and Berlin. From 1981 to 1986 he worked in the office of OM Ungers on the projects for the Frankfurt trade fair, and has run his own practice, with offices in Berlin, Frankfurt and Zurich, since 1992.



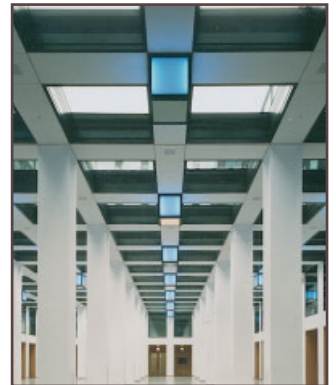
Station Square with Twin Towers, Mannheim, 1994.



Block 208, Berlin-Mitte, 1997.



IBM Headquarters, Zurich, 2002.



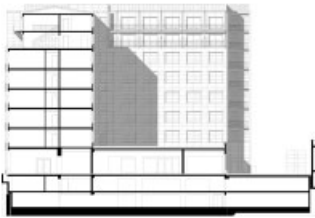
IBM Headquarters, Zurich, 2002.



Diocesan Library and BGV Administration Buildings, Münster, 2005.



Sihlpost Areal mixed-use development, Zurich, 2006–.



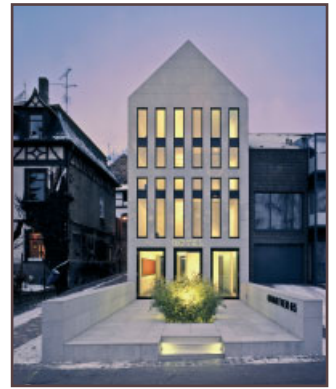
BEWAG Offices, Berlin-Mitte, 1997.



Primary and Secondary School, Berlin-Hohenschönhausen, 1998.



Pfeilsticker House, Kleinmachnow, Brandenburg, 1998.



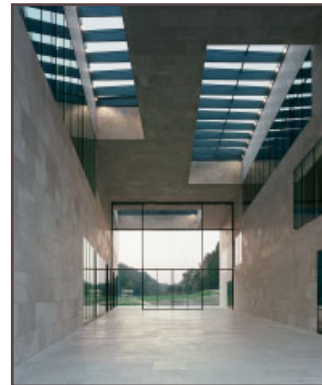
Hotel Quarter 65, Mainz, 2001.



Thiele House, Kleinmachnow, 2002.



Federal Ministry of Transport, Building and Urban Affairs, Berlin, 2005.



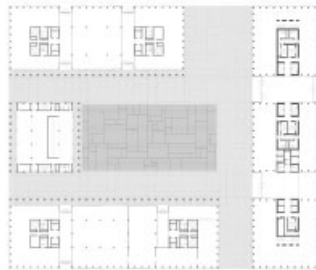
Museum Ritter, Waldenbuch, Stuttgart, 2005.



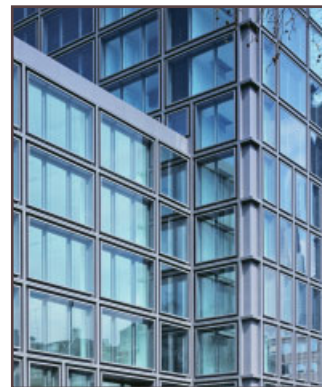
Gustav-H-Heinemann Bridge, Berlin, 2005.



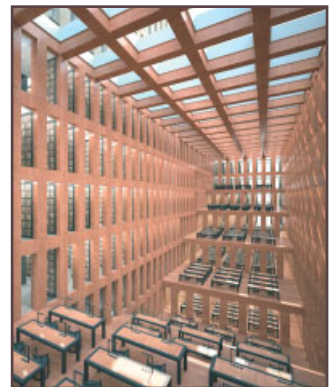
Government and Local Education Authority, Eberswalde, Brandenburg, 2007.



Sunrise Towers high-rise offices, Zurich, Switzerland, 2008.



Westend First House (2003)/Romeo and Juliet House, offices, Ulmenstrasse, Frankfurt/Main, 2008.



Jacob and Wilhelm Grimm Centre, Library Humbolt University, Berlin, 2008.

Dialogues with OMU

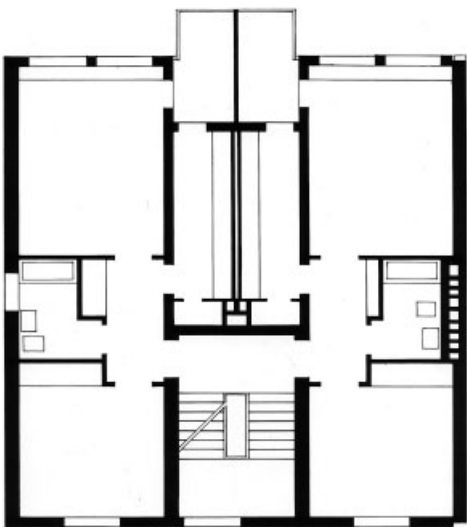
In January 2007, guest-editors **Andrew Peckham** and **Torsten Schmiedeknecht** met with OM Ungers in the library of his Belvederestrasse house in Cologne Müngersdorf.¹ A 'round table' discussion followed, with the architect, his wife, daughter and archivist, prompting a series of dialogues with Ungers centred on his built works, projects, thinking and teaching. The authors gained a unique insight into Ungers' varied and often influential career, and took the opportunity to re-examine the preconceptions surrounding it.



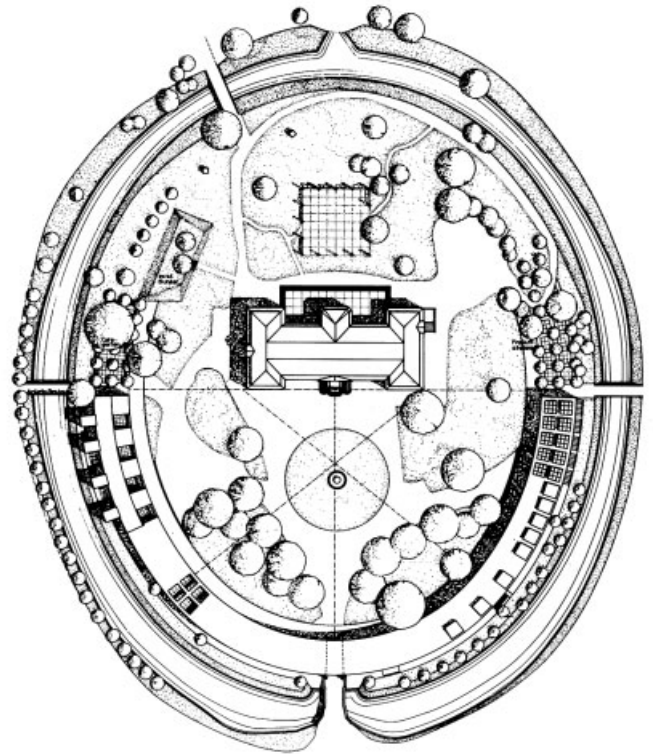
OM Ungers, Apartment Building, Hültzstrasse, Cologne-Braunsfeld, 1951
Front elevation. This modest residential building expresses a rational austerity typical of the postwar reconstruction of Cologne.

At different points in the postwar period, OM Ungers' architecture has been seen to represent the antithesis of a prevailing social-democratic ideal of an 'open' transparent architecture; an architecture whose origins in German Expressionism Ungers is well acquainted with. This context places Ungers' views, at 80, in an intriguing and unique perspective, given the vicissitudes of taste and opinion surrounding his work. A major retrospective exhibition of his work – 'OM Ungers: Cosmos of Architecture' – held in Mies van der Rohe's Berlin Nationalgalerie, took place between October 2006 and January 2007. Although the exhibition and the associated publications that focus on his archive and teaching practice (the last also the subject of a symposium at the TU Berlin)² have attracted little critical attention in Britain, they recognise the unusual range and depth of his contribution to architecture since the early 1950s.³

Initially building extensively in postwar Cologne, and later Berlin, while also teaching at the Technical University, Ungers subsequently moved to the US, teaching at Cornell, Harvard and UCLA during the 1970s. Erika Mühlthaler argues that his teaching in Berlin proved to be both radical and prolific,⁴ focusing exclusively on the city itself as a location for students' work. His studio became a laboratory for the investigation of diverse projects ranging from the domestic scale to megastructural proposals for 'Berlin 1995'.⁵ According to Mühlthaler, Ungers satisfied an increasing demand for objectivity and an intellectual orientation in design, being consequently identified as a central protagonist of a new rational didacticism. Interviewed by Nikolaus Kuhnert in 1982, he emphasised a desire to recognise architecture's 'autonomy', where the 'rational' is understood not as the 'functional', but rather within architecture's own 'ratio' or language of form,⁶ expressed in his earlier *Architecture's Right to an Autonomous Language* of 1980.⁷



First-floor plan. The articulate planning suggests the more self-conscious Rationalism to come in later work.



OM Ungers, Schloss Morsbroich, Leverkusen, 1976

Site plan. The planned extension (originally a full oval) followed the geometry of the moat, addressing the symmetrical *Schloss*, and in a series of transformations from wall to frame integrated with the adjacent landscape.

Returning to Germany, the construction of the Frankfurt Architecture Museum and Trade Fair relaunched Unger's practice during the following two decades. His influence was reflected in the work of students and colleagues (Rem Koolhaas, Axel Schultes, Hans Kollhoff and Max Dudler) and reinforced by the consistency of his focus on architecture as urbanism. Significantly, it was Koolhaas who, in his early projects, most directly took Ungers' strategies and made them his (rhetorical) own.

The philosophical concept of Rationalism is fundamental to Ungers' approach to architecture, but he evidently views it with a degree of circumspection. One may speculate about how the boundary between rationality and subjectivity is negotiated in his work. When Alan Colquhoun asked in 1989: 'Can we still use the word *rationalism* in architecture,'⁸ the Neorationalist 'moment' in European architecture, with which Ungers' return to building coincided, seemed to have passed. Yet his later work, over the next 20 years, increasingly identified with the Cartesian grid, not only in the planning of individual buildings (his urban proposals retained a more complex spatiality), but in the form of characteristically square modular cladding. This formal repetition, and decision to work within a limited repertoire, appeared to demonstrate the finality of an abstract architecture. A predominant use of a limited range of materials (brick, stone and render) differing

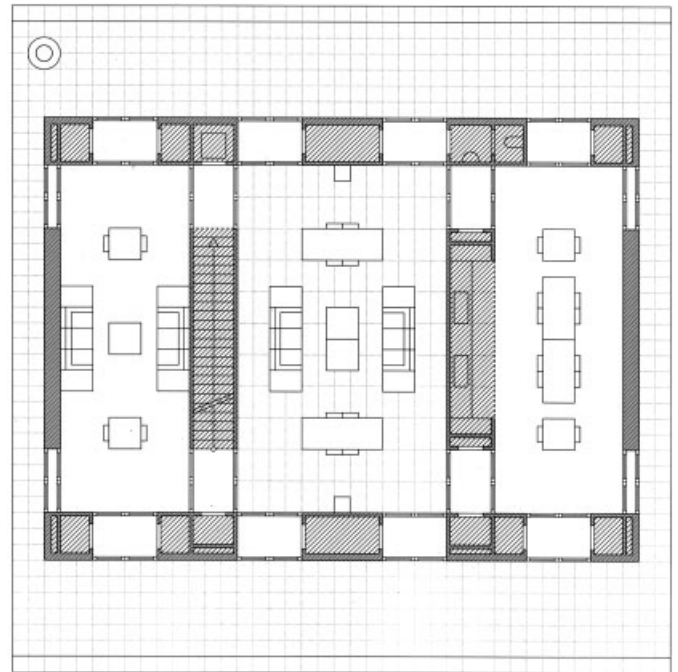
in the scale of their application, required a refinement in their articulation to effect material conviction in buildings otherwise predicated on the notion of abstraction.

In a culture where the empirical efficacy of reason is taken for granted, but often denigrated in contemporary discourse and the creative practice of design, does Ungers' architecture propose a consolatory logic, or a didactic assertion against the grain? And do his strategic urban projects, informed by 'an architecture of the city' (preoccupied with Rome and Berlin), retain conviction for 21st-century urbanism, given the economic and political transformations of the recent past? Ungers' Friedrichstrasse Arcades development formed part of the consolidation of the centre of Berlin that contradicted, in certain respects, the emphasis of his urban theories, which were elaborated in teaching at the Technical University and later in a series of Cornell 'summer schools'. From *Cities Within Cities* to *Urban Islands in a Metropolitan Sea*,⁹ these uniquely recognised the spatial anomalies and potential created by Berlin's particular pattern of 19th-century development – both urban and within the topography of the periphery¹⁰ – and later experience of destruction and division.

The Berlin International Building Exhibition (IBA) programme of the 1980s, directed by Josef Kleihues, whose early work paralleled Ungers', was indebted to the strategies Ungers developed in his teaching practice. The consistent integration of formal studies, polemical statements and urban projects from 1963 until the late 1970s identify a Rationalist practice distinct from the aesthetic embodied in his buildings. We were interested in how Ungers' thinking during his break from practice influenced the work that followed. Did this follow a Rationalist trajectory of its own, or accommodate the thematic of Postmodernism associated with Heinrich Klotz's role at the Frankfurt Architecture Museum and later notions of a new-found abstraction?

What became immediately apparent in our conversation was the importance to Ungers of the Congrès Internationaux d'Architecture Moderne (CIAM) meeting he attended at Aix-en-Provence in 1953, where the Smithsons challenged the orthodox Functionalism embedded in CIAM – a critical perspective later to emerge under the auspices of Team 10¹¹ with which Ungers strongly identified. He spoke nostalgically of his last meeting with his friend Peter Smithson in Eindhoven in 2001.

One can observe two aspects of this legacy. The first being a concern 'to idealise nothing' and work within the limits of a circumscribed context, a position inherent in the Anglo-American conception of Brutalism. Originally identified with the ethic of a 'brutal honesty', this led Ungers 'to the point that I photographed my buildings only in the rain' (a matter-of-factness that persisted in his work). The second introduces a complementary idealism, evident in his joint manifesto of 1960 with Reinhard Gieselmann, emphasising the creative process of architecture. Conceiving this as the antithesis of technocratic imperatives, their polemic insisted: 'Form is the



OM Ungers, House III, Kämpchensweg, Cologne-Mungersdorf, 1996
Ground-floor plan. The drawing illustrates the essential formal parti of this 'house without qualities'.

expression of spiritual content', alluding to a 'creativity' where formal complexity promotes contextual integration, but also an aspiration to 'rise above its surroundings'. This recurrent duality in Ungers' thinking informed the design of the Belvederestrasse House, and the preceding social housing schemes where morphological variation was sought as an antidote to normative planning.¹²

Our conversation turned to the Italian connection. Aldo Rossi, Vittorio Gregotti and Giorgio Grassi visited Ungers in 1959 while researching an article for *Casabella*. In his mind this was the precursor to the later prescription of an *Architettura Razionale* identified in the 1973 catalogue edited by Rossi which illustrated Ungers' social housing at Niehl and the conventional Modernist form if not the programme, of his 1958 two-family house in Cologne. Five years later the publication of *Rational Architecture 1978*,¹³ promoted by Leon Krier, featured Ungers' Cologne Grünzug-Süd planning study – and the first Wallraf-Richartz Museum project. The former consequently acquired an iconic status, primarily for its strategic urban implication. In the collection of essays associated with Ungers' Berlin exhibition, a double page displays the original presentation, where documentary photographs are juxtaposed with diagrammatic proposals emphasising an engagement with the everyday realities of Cologne's urban periphery. The literal reconstruction of the European City associated with the publication remained at one remove from Ungers' more realistic thinking, and Krier's polemical drawing 'Difficult Access to O.M.U' of 1975 points to the distance between their respective views.

With respect to the Italians' visit, the programmatic complexity of Ungers' end-of-terrace house, which incorporated an architect's office, family dwelling and two separate apartments, presented the antithesis of the bourgeois suburban villa, itself anathema to Rossi. Beyond the contextual reticence and contrasting formal expression of the house, it is the subtlety with which this programme is accommodated within modest dimensions that stands out; empirical spatial compression releasing rather than denying sculptural expressiveness.

Ungers remembers lecturing at the Architectural Association in London, and strongly identifying with the mutual discourse underpinning both the new conception of a Rational architecture and the earlier polemic of Team 10. The group, and the later movement, were strongly supported by a consensus of agreement between like-minded European architects. Organising 'The Rationalists Are Coming' exhibition, in Los Angeles in 1975, Ungers' active participation paralleled the concurrent assimilation of Rossi's work in the US.

He accepted, in our discussion, the general terms of a comparison with Rossi. There was a parallel conception of an

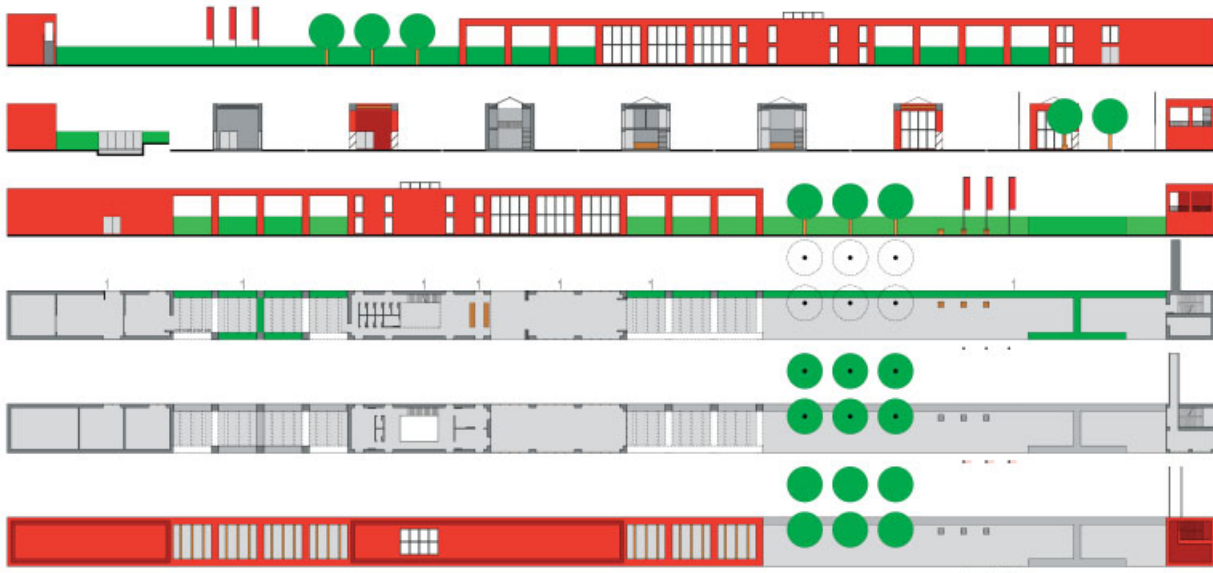
'architecture of the city' whose (relative) autonomy of form is understood through morphological or typological studies, contextualised with respect to *genius loci* and viewed as the embodiment of collective memory. If in retrospect these may be seen to be familiar generalisations associated with the Neorationalism of the late 1970s and 1980s, each pursued their own particular interpretations of these concepts. A mutual interest in analogical thinking – indebted to Structuralism – is evident, and both architects affect a philosophical understanding of architecture.

We asked Ungers in what way his own four projects – three houses and the library extension – might be seen as representative of the different phases of his career. He preferred to emphasise the 'difficult and painful process' of realising the houses as 'pure' projects, noting the classicism of the Glashütte Villa and the essential character of House III located close to Belvederestrasse in Kämpchensweg.

A poignant exhibit in the Berlin exhibition (primarily of models) was the distressed balsa model of the 1958 house, to which had been added the black cube of the new library. Placed next to the four components of the 'unpacked' library –



Garden view. The architecture of the built model.



OM Ungers, Entrance building to the Kaiserthermen, Trier, 2007

Composite drawing. The linear building is reminiscent of the strategy for the unbuilt Schloss Morsbroich extension of 1976.

encircling wall, frame, enclosure (walls of books) and four-square roof – the model’s grey exhibition plinth attracted immediate attention positioned close to the entrance. The orthogonal exhibition layout complemented the floating ceiling of Mies’ Neue Nationalgalerie. Positioned towards the centre of the space, the wooden model of House III was remarkable for its simplicity; the enclosing hedge reduced to a strip of hardwood, and the outlines of its 24 identical paired French windows inscribed on its surface. Seemingly prefatory but complete in itself.

Photographs of the exterior of House III reveal something different, and vary markedly in their representation of the house, depending on whether blinds are drawn, windows are open, it is daylight, or the house is illuminated at night. But, if Ungers’ existential intention for a ‘house without qualities’ is taken at face value – to leave everything out, to create an objectless form, an image of the idea of a house – then the model is the closest we come to its realisation. And the model exhibited under Mies’ auspices in Berlin came closer still to that intention.¹⁴

If the model of the Belvederestrasse House is indicative of the desire to build materially, then the model of House III is essentially a paradigm of its own, unaffected by the depredations of weathering or the presence of flush door hinges. What of the Glashütte Villa, situated halfway between the built and the model? Oliver Elser perceptively describes the interior of Ungers’ library extension as a full-size model (in terms of its process of realisation), and this also seems true of photographs of the Glashütte, where the scale is difficult to grasp.

The suggestion is that the three houses are identified with three phases, or moments, in Ungers’ work (following

Frampton). The materiality of the ‘built brick’ architecture of the 1950s (Belvederestrasse House I) stands in itself beyond the inference of the model. The subsequent work is conceptualised as an architecture of the built model, for which the library extension and Glashütte Villa House II stand as paradigms. And the later existential architecture is arguably most completely realised in the form of the model itself (Kämpchensweg House III). This characterisation of the later buildings as idealised objects in model form may well represent no more than the displacement of a predilection for abstraction equally present in the sculptural articulation of the early Brutalist projects.

But is the argument convincing? Visiting House III our attention was drawn to the metal edging in the garden replicating the plan of the house. As an antidote to the self-referential, the presence of a battered football on the lawn reminded us of Ungers’ conception of ‘Planning and Accident’, and that architecture built is most likely occupied. The photographs of the Belvederestrasse House recently published in *Learning from OM Ungers*, evocatively redolent of the early 1960s, are inhabited by Ungers’ family and employees. Was this no more than a built architecture? As Ungers himself writes, knowingly: ‘When I was 30 I put everything in and at 70 I leave everything out.’¹⁵ What is the implication of this excess content?

Today, the basalt cube of the library extension to the Belvederestrasse House, and the sculptural column outside, provide an explicitly monumental foil to Brutalist articulation, as does the (almost) pure expression of the structural frame inside the library. Ungers’ cast of Terragni’s Casa del Fascio, placed in an alcove on our visit, seemed residual (the other models were in Berlin), yet also pertinent

in that the three-dimensional modulation and layering of the real building was reduced to an elegant, elegiac, ultimately static monumentality. Like Moretti's sculptural casts of interiors, it failed to capture the ambience of the building's fluid self-referential interiority, while confirming its iconic status. Ungers' structural frames, themselves, are rarely fully realised in three dimensions, abutting adjacent walls or subsumed by ceiling or floor planes; their completeness is indicative, yet their presence tangibly monumental.

Inside the Belvederestrasse House a central square block of brickwork contains the mass from which the domestic stair appears carved. Heavy black terrazzo treads spiral upwards, and on reaching the second floor the stair concludes in a stolid up-stand. It reads as a lithic element at the heart of the house, quite as archetypal as the more recent additions, but one hidden from the everyday routine of the office in making the transition to the domestic realm above. A separate timber stair finally leads transversely up towards an attic space overlooking the threshold on the second floor. Its elemental construction is perfectly considered – analogous to the elemental construction of the house itself – and, set a slot away from the wall, it brings one to the apex of the roof. The presence of the main stair, both in its static enclosure and in its own solidity, is the pivot around which the articulated movement of disengaged brick planes is arranged. Arguably, the house built of brick retains something more than a nostalgic presence in Ungers' *oeuvre*.

As we discussed Ungers' academic experience, his wife Liselotte remembered how, often, he returned home animated from teaching. Our conversation turned to the significance of his conceptual model 'tool kit', a key component of his Technical University *Berufungsvortrag* (inaugural presentation) in 1963. An image of the original cube demonstration model, apparently bound for posterity, introduces *Learning from OM Ungers*. The book concludes with its plexiglas reconstruction; completely transparent, highly reflective and elaborated with enhanced joint connections. The first image has the character of a casket, while the second shows a transparent object lacking the hierarchical quality of the original. Essentially the model could be deployed in three ways exploiting the ingenuity of its connectors: as a frame associated with 'open' non-directional space, as in-fill wall panels expressing their thickness, associated with directional space, or as a series of stacked cubes characterising interior volumes. In both the latter variants the space of the frame is voided. The overall configuration may be limited to a closed cubic volume, extended, or presented as an arbitrary aggregate. The model is didactic rather than tectonic and emphasises Ungers' quest for abstraction.

Our final question concerned Ungers' attitude to materiality given the priority he assigns to the concept of a formal Gestalt. His response emphasised the range of different materials employed in his buildings; varieties of stone, for instance, chosen in relationship to a particular context. He acknowledged a conscious decision in the later work, where

House III is representative, to confront the immaterial, accepting a split between subject and object – the sign perhaps of an 'emotional Rationalism'.

After visiting House III we returned to complete the formalities of the interview. A handshake from Ungers both for ourselves and a group of young visiting architects from Switzerland, and he departed, a slightly bowed figure, down the corridor towards the front entrance. Vittorio Gregotti, the Italian architect whose work parallels Ungers' (though it lacks his geometric rigour), once observed that history may be understood as a species of corridor that one needs to traverse to gain access, but which teaches us nothing of the art of walking. An appropriate metaphor, perhaps, to represent the career of the Rationalist architect. It establishes a single direction, yet also the possibility of return – rooms entered directly act like projects in a chronological sequence where one may be surprised by *enfilade* relationships beyond the corridor's remit, along which, occasionally at intervals, the outside world comes into focus. Δ

Notes

1. The interview took place on 12 January 2007 with Ungers, his wife Liselotte, daughter Sophia and archivist Anja Sieber Albers. The library is housed in the 'cube' extension, completed in 1989, to his 1958 brick house and atelier.
2. A Lepik (ed), *OM Ungers: Cosmos of Architecture*, Hatje Cantz (Ostfildern), 2006; E Mühlthaler (ed), *Learning from OM Ungers, Arch+* (Berlin/Aachen), 2006; and E Mühlthaler (ed), 'Lernen von OM Ungers', *Arch+*, No. 181/182, 2006.
3. James Stirling's Science Centre provided a peripheral distraction at the exhibition (scaled as if a model and composed in an Ungers' parti).
4. For Ungers' teaching practice in Berlin, see also F Hassenwert, 'Lehren Des Entwerfens', PhD Thesis, Technical University Berlin, Fakultät 6, February 2006, pp 82–3.
5. 'Berlin 1995' was an urban design project set by OM Ungers for his students at the TU Berlin in 1969, in which the students were asked to develop future visions for the urban development of Berlin and for which versions of megastructures were developed. See E Mühlthaler op cit, pp 152–3.
6. In *Stadtbauwelt*, No 76, 24 December 1982, pp 369–92, as quoted in E Mühlthaler, 'Lernen von OM Ungers', op cit.
7. OM Ungers, 'Architecture's Right to an Autonomous Language', in P Portoghesi (ed), *The Presence of the Past*, Academy (London), 1980.
8. A Colquhoun, *Modernity and the Classical Tradition: Architectural Essays 1980–1987*, MIT Press (Cambridge and London), 1989, p 85.
9. OM Ungers, 'Cities Within Cities', in *Lotus*, No 19, 1978, and OM Ungers, 'Urban Islands in a Metropolitan Sea', in *Architectural Design*, No 92, 1991.
10. Ungers particularly identified with Lenné and Schinkel's interventions at Glienicke in the Potsdam-Havel landscape.
11. Team 10 represented the younger generation within CIAM led by Alison and Peter Smithson and Aldo van Eyck, who challenged the precepts of the Athens Charter and formed Team 10 after the last CIAM meeting in 1956.
12. K Frampton, 'OM Ungers and the Architecture of Coincidences', in *OM Ungers: Works in Progress 1976–1980*, Rizzoli (New York), 1981, and A Peckham, 'OM Ungers: Notes Towards an Ideology of Form', in *Issue*, No 3 (PCL), July 1982, pp 39–50.
13. *Rational Architecture 1978*, AAM (Brussels), 1978.
14. At the Berlin exhibition the child's-eye view of a young girl peering into the interior of the Frankfurt *Messe* model produced a degree of bemusement beyond her perception of any real place. She remained resolutely unimpressed by the adult explanation offered.
15. OM Ungers, 'Aphorismen Zum Häuserbauen', Vieweg & Sohn, 1999, p 8, trans T Schmiedeknecht.

The Employment of Reason

Rationalism in the Netherlands is characterised by pragmatism. As **Charles Rattray** explains it is a practical bent that was driven in the 20th century by the exigencies of building cheaply and quickly a large amount of social housing on a relatively small amount of land. It is a strand that has been underscored by a belief in reason across time and a confidence in an analytical approach.



Towards the end of 1986, Carel Weeber was putting the finishing touches to a project set in the future. It anticipated the year 2050, when 50 million singles in search of a partner would be accommodated in 800,000 hotel rooms off the Hook of Holland, most around the perimeter of an offshore island, others in 12 vast seaside hotels. A fantasy, yes, but one that had a degree of logic: after all, for a country that is itself partly wrested from the sea, the construction of an island is no more than the continuity of a tradition.

It also had a degree of whimsy: one might cite the way that the centre of the island held a replica of New York's Central Park, lit, as it happens, by the 12 pyramids of Cheops reproduced by laser. But more significant – at least in the present context – was the fact that those 12 seaside hotels were giant replicas of Aldo Rossi's beach-hut project. Here, surely, is a Rationalist trace if ever there were one. But Weeber, the polemic bad boy of Dutch architecture 'who made the buildings everybody liked to hate',¹ will have relished this witticism, this rhetorical play on themes of his own as well as of Rossi, precisely because Rationalism in his work, and more generally in the Netherlands, is about much more than gesture or wordplay. It is about the pragmatism that is woven into the fabric of Dutch Rationalism.

Two strands are immediately discernible. The first of these is social and contextual. Whether or not one accepts the conventional image of a high population density occupying land that was previously water – the image so ably parodied by Weeber – the national emphasis on housing provision for that population (dating back to legislation in 1901) engendered significant technological developments and an acute awareness of financial constraints.² The Netherlands' architectural tradition is forged in social housing where, on the one hand, its very normality demands an examination of architectural merit while, on the other, speed, economy and buildability are all. The sort of pragmatism that entails is evident in examples ranging from building systems used in postwar reconstruction to the streetwise practice strategies of Claus and Kaan and even Rem Koolhaas' embrace of cheapness, the economics of the real world.

The second strand is intellectual: the influence of a Frenchman, Viollet-le-Duc. Viollet's reputation as one of architecture's key theorists rests on the *Entretiens sur l'architecture* ('Discussions on architecture'), published in two volumes in 1863 and 1872, in which he presents the case for structure and technique as the natural basis of architectural meaning. Underlying this case for an architecture related to reason was his belief in the rational order of nature itself. According to this line of thought, the architect should analyse precedents, abstract their arguments and then apply them to the problem in hand using the technology appropriate to the time. It was a message particularly

appreciated in the Low Countries and became evident in the work of both Horta in Belgium and Berlage in the Netherlands.³ Horta, transforming Viollet's own ungainly illustrations, gave structural ironwork a lyrical expression that was the beginning of Art Nouveau. Berlage progressively developed his Gothic stylistic inheritance towards an idea of Rational construction until he could say that a 'pure art of utility' was 'the art of the 20th century'.⁴

The Influence of Berlage

A key interim building in this development is Berlage's Amsterdam Exchange (1903), a personal response to the principles of the *Entretiens*. Mies van der Rohe later approved of its use of brick 'in the way medieval people did ... a clear construction',⁵ and although Berlage himself would later write that it was 'not easy to rid oneself of traditional forms', its directness and tectonic ornamentation were hugely influential and supported his claim that 'the artistic form must be the result of practical considerations'.⁶ Mature demonstrations of this are amply evident in late work such as the Municipal Museum in The Hague (1935), where the fascinating knitted appearance of the brickwork facade shows its nonstructural nature in relation to the concrete frame.

But although Berlage's structural Rationalism can be related to a Dutch lineage including Johannes Duiker (his structurally expressive open-air school in Amsterdam, for example) and Herman Hertzberger (whose work is characterised by clear articulations of structure, window and wall), his main connection with later Rationalist thought lies in his interest in the city and in urban planning. Notwithstanding the fact that he was strongly influenced by English Garden City ideals, Berlage's view was that: 'The



HP Berlage, Amsterdam Exchange, 1903

This key transitional building in modern Dutch architecture shows the architect moving beyond his Gothic stylistic inheritance towards Rationalism.

Frans van Gool, Office blocks, Amsterdam, 1979

Taking their pattern from the villas that previously occupied the site, these offices nevertheless prompted discussions of what was seen as a wave of ugliness in Modern architecture of the time.

THE NETHERLANDS



HP Berlage, Municipal Museum, The Hague, 1935

The brickwork bonding reveals its nonstructural nature in relation to the concrete frame.



JJP Oud, Housing, Tusschendijken, Rotterdam, 1924

Oud's early housing continued Berlage's study of housing blocks, their uniformity articulated here by grouping entrances.

housing problem can only be resolved by mass production. In order to find a viable solution one has again to go back to housing blocks, but at a larger scale than previously.⁷ This placed an emphasis on standardisation and type, along with historical continuity – a classic area of interest for Rationalists – and in turn encouraged more radical arguments for industrialised building systems.

Looking back on those days, in his 1960 booklet *Mein Weg in 'De Stijl'* JJP Oud clarified the then Rational view: 'No more little masterpieces for the individual ... but mass production and standardisation with a view to providing decent dwellings for the masses ... A house à la Ford, all light, air and colour.'⁸ Oud's work as chief architect of Rotterdam gave him the opportunity to explore this using more abstract prototypes. His blocks in Spangen and Tusschendijken, built sequentially between 1918 and 1924 and with colour schemes by his friend Van Doesburg, pursued a nuanced uniformity along with a radical programme and aesthetic. Later, a crucial change was the move away from the perimeter block towards row housing: standardised dwellings in regular street patterns, notably at the Hook of Holland (1924–27) and at Kiefhoek the year after.

The idea of utility, in the form of *Existenzminimum*, was the subject of the second Congrès International d'Architecture Moderne (CIAM) meeting in Frankfurt in 1929 and was immediately rejected by a number of participants (including Häring, Scharoun and Aalto). Their internal criticism intensified after the 'Four Functions' analysis of planning that arose from the fourth CIAM meeting, the famous sailing trip of 1933. In the Netherlands a similar debate continued as the pioneer Berlage died in 1934, to be followed within a year or so by two much younger key Modernists, Leendert van der Vlugt and Duiker. This time it was a debate between Functionalism and traditionalism, and more debate than exposition because less public housing was being built. A distinguished exception, and an important prototype for

higher buildings, was the gallery-access Bergpolder block in Rotterdam by Willem van Tijen with Jan Brinkman and Van der Vlugt, completed in 1934.

Postwar Reconstruction

The typological intention of the Bergpolder flats anticipated the slab-shaped housing blocks built after the Second World War. Projects were made on a considerably larger scale. Beyond architecture they included motorway building, extensive hydraulic engineering in the centre and southwest, and harbour building on the Rhine delta; the *Randstad*, the West Holland conurbation circling from Amsterdam to Leiden to Rotterdam to Utrecht, came into being as its component towns expanded around the so-called *Groene Hart* (Green Heart). But in housing, prefabricated components were craned into position to make up for an estimated 25 per cent of dwellings destroyed during the war and to provide for a rising birth rate. Several contractors developed their own building systems, sometimes in collaboration with architects, such as the RBM system, developed with Van Tijen and visible at his Zuidwijk flats in Rotterdam, completed in 1951.

The changing typologies in housing (perimeter block to row to slab) were reflected in the city centre in other building types. Van Tijen and Hugh Maaskant's concrete-framed Business Centre on Stationsplein (1951) created much-needed accommodation for small industries and wholesale offices but, despite its extraordinary size (one can drive up ramps around the inside, and there is a cinema on the roof), and its symbolic position in the city's reconstruction, it is still a traditional 19th-century urban model. By contrast, the Lijnbaan shopping centre of two years later, by Joop van den Broek with Jaap Bakema, departs from the traditional street organisation by placing high- and medium-rise housing behind, rather than over, the shop units. The result, with its low front to the public space, became an important precedent for architects internationally.⁹

Van den Broek occupies a special position in any consideration of Dutch Rationalism, not only because of his work during the period of reconstruction, but also because of two architects of the next generation who worked in his office (a partnership with Bakema after 1951): Frans van Gool and Jan Hoogstad. Van Gool, who had worked on the Lijnbaan centre, left the practice in 1959, the year Bakema, Herzberger, Aldo van Eyck and others became editors of the journal *Forum* and began to promote 'another idea', one redressing what they saw as architecture's technocratic bias in favour of a close relationship between an individual and his or her environment. Van Gool was sceptical of what was sometimes described as this 'soft' architectural culture and concerned that the social dimension of the subject was taking priority over the professional business of design.¹⁰ In his own work there is a lightness and optimism about the Het Breed housing in Amsterdam (1966) with its curving precast balconies, but his reputation for toughness is more evident in the paired – but not quite identical – six-storey office blocks at Wetteringschans in Amsterdam; these were completed in 1979 to cries that they were Amsterdam's ugliest architecture.

Such work, not especially favoured at home, was not at all the image of Dutch architecture abroad during the 1960s and 1970s. Coverage of the 'humanist' architecture of Structuralism's small – and supposedly less alienating – repeated units and interest in issues such as resident participation in housing design tended to eclipse larger-scale projects. Among these latter, Wim Quist made rational structure hugely characterful at his water-purification plant at Berenplaat, near Rotterdam, and highly refined at his elegant extensions to the Kröller-Müller Museum (the setting of the 1959 CIAM) at Otterlo (1977). On the other hand his offices at Breda (1976), with their outer brick walls punched by large recessed windows, carry a Neoclassical clarity. These might suggest later Rationalist expression, but were probably uninfluenced by the Italian *Tendenza*; until the mid-1970s Rossi's work had a very small degree of influence in the very different cultural landscape of the Netherlands.¹¹

The Immediate Background

It was Carel Weeber who continued the Rationalist line in the Netherlands, as a student and influential teacher at the TU



Carel Weeber/De Architekten Cie., De Schie Prison, Rotterdam, 1989

Weeber characteristically expresses the nature of the building, here using a courtyard plan with rusticated external walls; internally, bright colours add an ironic comment.



De Nijl Architecten, Housing, Paddepoel, Groningen, 2006

This residential court, built around a new harbour, is part of the architects' urban plan for a 1960s suburb in which new building types are introduced in relation to the existing townscape.

Delft from the mid-1960s, in partnership with Hoogstad from the late 1970s and, from 1988, in the practice De Architecten Cie. alongside his former students Pi de Bruijn and Frits van Dongen. His critical stance in relation to the architecture of the *Forum* group owed something to the way he saw himself – as an outsider to the Netherlands (he came from the Dutch colony of Curaçao) and as a spiritual pupil of Van den Broek (in so far as he rejected clients' desire for 'compassion, a contribution to a better society'). For Weeber, social housing should look like social housing; a prison should look like a prison. As he said: 'I have astutely tried to express what the project is about.'¹² In this way his work presents a powerful reflection of society's dilemmas. Buildings such as his Peperklip housing at Rotterdam (1982), Black Madonna housing in The Hague (1985) and De Schie Prison in Rotterdam (1989) not only constituted a revolt against what he saw as a 'frumpy cosiness' but, in formal terms, also celebrated size and direct expression. There is more than a hint of the arch-Rationalist, Durand, about this.

Like Weeber, Rem Koolhaas also took issue with the *Forum* group, reserving especially severe criticism for Herzberger and

his 'humanist' approach. To draw such sharp and acrimonious distinctions is nothing new in Dutch architecture, but it is significant that Koolhaas was placing himself in the Rationalist camp. At the time this was not surprising, since he had been much taken with OM Ungers' unsentimental Rationalist syntax in the early 1970s while a Harkness Fellow at Cornell, where Ungers was then professor. However, more recently, as Hans van der Heijden has pointed out,¹³ Koolhaas' Office for Metropolitan Architecture (OMA) has seemed at least as interested in invention as in Rationality, while Koolhaas himself has inherited something of the *Forum* group's moralising tone.¹⁴

The most recent generation of Dutch architects following the Rationalist tradition pursue a different path and their results are distinctive. An important contribution – both physical and intellectual – has been made by De Nijl Architecten.¹⁵ They engage with the Netherlands' large postwar housing ensembles and with the sorts of continuities – urban and historical – that can be established in these awkward contexts. Essential to this work is an interest in the significance of in-between spaces and spaces between new

and existing, equivalent in their own way to the more classic types such as the court. And here we see a precise exemplification of a key Rationalist idea: what Anthony Vidler called the 'third typology'. Vidler identifies two typologies legitimised by things outside themselves: one, typified by Viollet-le-Duc, founded on a belief in the rational order of nature; the other, the Modern Movement's engagement with the production process. But his third typology is essentially architectural. It is the city itself: the city which 'provides the material for classification, and the forms of its artefacts [which] provide the basis for re-composition' – and so designs can be based on 'the transformation of selected types – partial or whole – into entirely new entities that draw their communicative power and potential critical force from the understanding of this transformation'.¹⁶

Meanwhile, the very consistent *oeuvre* of Geurst and Schulze has developed with a fascination for the work of Edwin Lutyens.¹⁷ This is evident in recent projects such as their housing at Duindorp where they use a language similar to the rest of the locality – of brick, flat roofs and white-painted windows – but with base courses, quoins and even bird boxes made in concrete that looks like stone. In this allusion there is wit; there may also be a nod to Aalto's ironic advice in the wake of the 1930s CIAM conferences that 'rationalization has not gone deep enough' – he wanted it to take psychological demands into account, too.¹⁸

This reminds us that, as long ago as 1947, John Summerson speculated on what one might mean by a 'rational architecture'. He concluded that there were two possibilities. One was an impossible 'functional' architecture, mapped exactly to the requirements of a brief. The other was 'an architecture which seeks to express its function dialectically – to offer a visible argument to the spectator [that] adapts both means and ends to a game of its own'.¹⁹ That game is an intellectually stimulating one, as familiar to Weeber as to Viollet-le-Duc; not everyone has the ability to play it, but a number of Dutch practices make it look like the easiest thing in the world. ▴

Notes

1. Crimson Architectural Historians, *Mart Stam's Trousers: Stories from Behind the Scenes of Dutch Moral Modernism*, 010 Publishers (Rotterdam), 1999, p 207.
2. It also involved some of the key architectural figures in institutional positions: Oud, as Rotterdam's chief architect, was a civil servant from 1918 to 1927; in the 1940s, Van den Broek and Van Tijen were members of government committees concerned with housing production.
3. John Summerson, *Heavenly Mansions*, Norton (New York), 1963, p 184.
4. Ibid.
5. Quoted in Kenneth Frampton, *Studies in Tectonic Culture*, MIT Press (Cambridge, MA), 1996, p 185.
6. Sergio Polano, *Hendrik Petrus Berlage*, Butterworth (Oxford), 1988, pp 92–3.
7. Quoted in Philippe Panerai, Jean Castex, Jan Charles Depaule and Ivor Samuels, *Urban Forms: The Death and Life of the Urban Block*, The Architectural Press (Oxford), 2004, p 56. The original French edition was published in 1977 (see also note 14).
8. JJP Oud, *Mein Weg in 'De Stijl'* (My Way in 'De Stijl'), Nijgh en Van Ditmar (Amsterdam), 1960.
9. Comments by Peter Smithson and Carel Weeber are illuminating in



Geurst en Schulze, Housing, Duindorp, The Hague, 2005

The consistent Rationalist approach of the architects is here enriched by allusions to the existing context and to the work of Edwin Lutyens.

Crimson Architectural Historians, op cit, pp 127, 213.

10. Crimson Architectural Historians, *Profession Architect: De Architecten Ci.*, 010 Publishers (Rotterdam), 2002, p 46.
11. For some discussion of this see Henk Engel, 'Autonomous Architecture and the Project of the City', in *OASE*, No 62, pp 24, 59.
12. Crimson Architectural Historians, *Mart Stam's Trousers*, op cit, pp 207–15.
13. Hans van der Heijden, 'The Netherlands – Koolhaas and the Profession at Play', in Paul Davies and Torsten Schmiedeknecht, *An Architect's Guide to Fame*, The Architectural Press (Oxford), 2005, pp 105–18.
14. Since Bart Lootsma's survey of a dozen practices including OMA, Arets, Van Berkel and MVRDV – *SuperDutch*, Thames and Hudson (London), 2000 – it is tempting to suggest that the latest bifurcation in Dutch architecture features the 'SuperDutch' and the rest.
15. De Nijl Architecten partner Henk Engel has written extensively on Rationalist themes (see, for example, note 11 above) and was a driving force behind the Dutch translation of the influential *Urban Forms* (see note 7) in 1984 – an astonishing 20 years before the English translation appeared.
16. Anthony Vidler, 'The Third Typology', in *Oppositions*, 7, Winter 1976, reprinted in Michael Hays (ed), *Oppositions Reader*, Princeton Architectural Press (New York), 1998, pp 13–16.
17. See, for example, their studies of Lutyens' First World War cemeteries in *De Architect*, January 2007, pp 32–7.
18. Alvar Aalto, 'The Humanising of Architecture', in *The Technological Review*, November 1940, quoted in *Alvar Aalto 1898–1976*, The Museum of Finnish Architecture (Helsinki), 1978.
19. Summerson, op cit, p 149.

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Dutch Selected Projects

The most recent generation of Dutch Rationalists are as distinctive as they are pragmatic. **Charles Rattray** describes four projects that are visually imposing in their stringent use of geometries, while also being sophisticated in their development of type, spatial configurations and application of elements.



The entrance to the housing for each four-storey block is located below a tower that rises three to nine storeys beyond.

Ypenburg Centre, The Hague

Rapp and Rapp

2005



Rapp and Rapp's project accommodates some 480 housing units, 525 underground parking places and 20,000 square metres (215,278 square feet) of commercial and noncommercial services. It revised a previous urban design proposal by splitting this into nine blocks, rotated slightly out of alignment with one another, a plan that creates an urban shopping street lined on both sides by dense urban blocks and cross routes in the shape of small clearings. The omnidirectional blocks also keep the rear sides of shops, goods yards and a sports hall out of the streetscape. The low-rise housing is reached from these less formal courtyards: padauk timber fronts combined with access galleries of steel and sandblasted concrete on the residential sides clearly contrast with the formal front facades of high-grade brickwork above a concrete plinth, and a curving front along the southeast side steps back to accommodate a gently rolling public park between Ypenburg Centre and the lake.

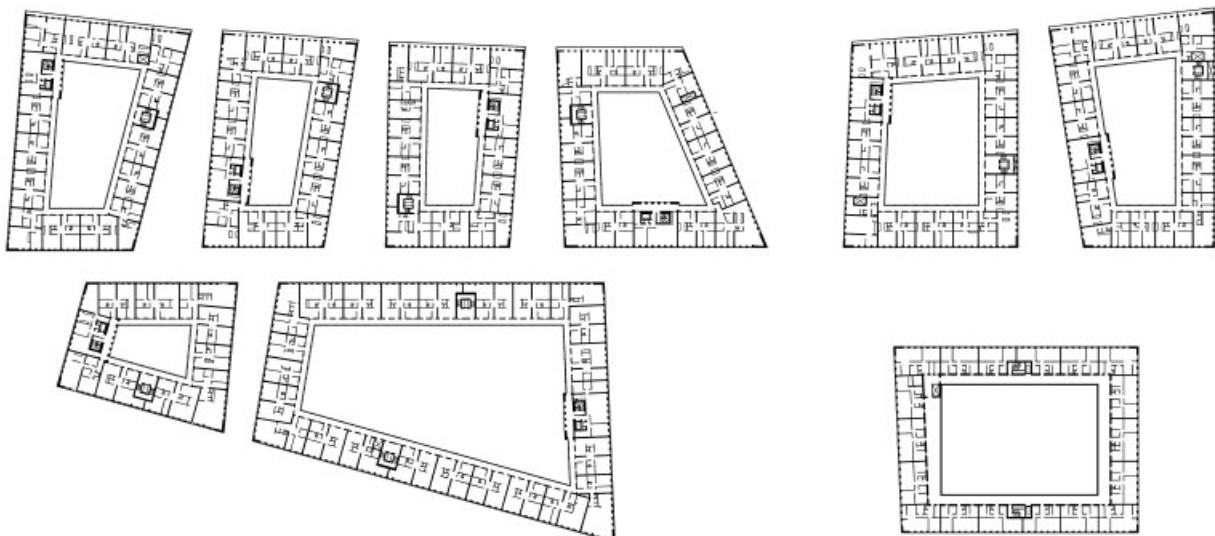
A slender tower atop each block marks the entrance to the buildings. Forty-six metres (150-feet) tall at the most, and with one apartment to each storey, the towers rise three to nine storeys above the bottom four, which enfold communal courtyard gardens. These vertical accents single out both the location and the programme from the surrounding low-rise housing and make a landmark silhouette reminiscent of Adalberto Libera's 1933 proposals for the Castelfusano shoreline when seen from the lake. The complex has a worldliness driven home by the lighting of the glazed uppermost levels of the towers which has a shifting colour palette, slowly changing in time.

View across the main street from one 'clearing' to another. The ground-floor facades are concrete, and above them can be seen the brickwork of the accommodation.



Elevation to the northwest showing the central shopping street. The park and lake are behind the blocks, to the southeast, and the towers, which are important landmarks, mark the central location.

Second-floor plan. The large space is a square marking the destination of the main road from the motorway.





The one-kilometre (0.6-mile) corridor is 2.7 metres (9 feet) wide. Its outermost wall is made up of a single glazed door, repeated over laboratory entrances and service ducts.

Netherlands Forensic Institute, Ypenburg, The Hague

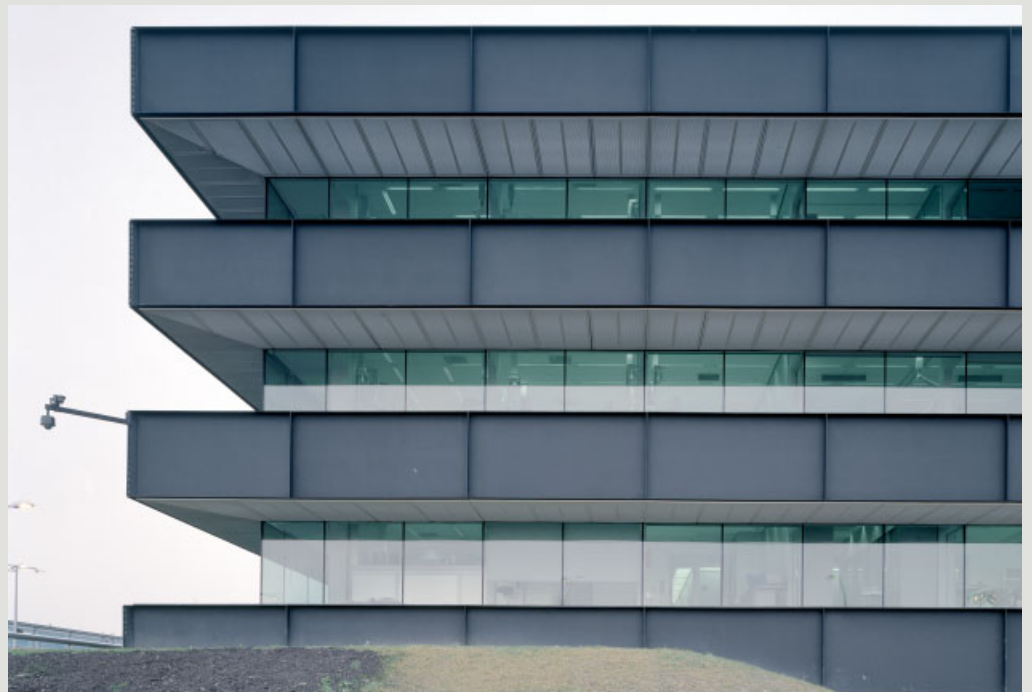
Claus en Kaan Architecten

2005

The new headquarters for the Netherlands Forensic Institute is located at the edge of Ypenburg, clearly visible from a spaghetti junction on the motorway between The Hague and Delft. The client wanted an eye-catching design that would represent the institute, and the architects responded with a very strong, abstract object with a slightly mysterious presence. Two-thirds of the programme is generic space (offices and laboratories for different departments), and the remainder is highly specific, including the entrance, a shooting range and conference centre. Remarkably, it is the generic part of the programme that gives the building its power.

Expressed diagrammatically, the offices and laboratories line a corridor 1,100 metres (3,609 feet) long. In the building, this corridor is folded to produce four levels arranged round six patios. The laboratories are positioned on the outer perimeter to give the building its public image, while the private offices face the internal courtyards; as one moves from courtyard to perimeter, the walls become thinner and more transparent.

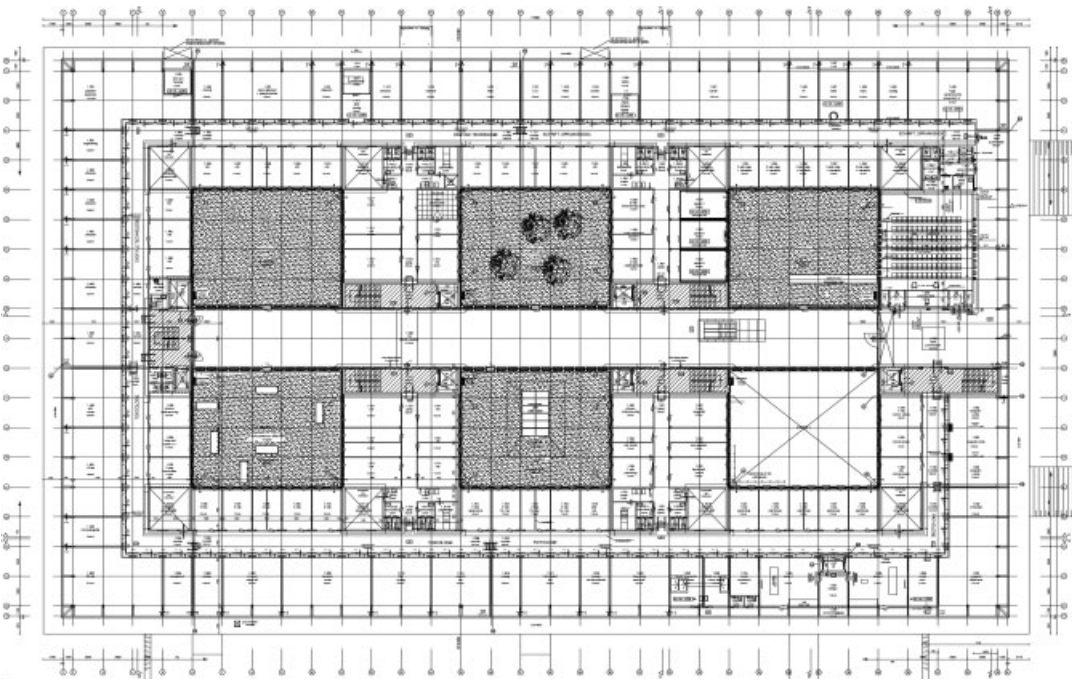
To symbolise the generic nature of the programme and the fact that the building is for one institute rather than its component parts, an empty hall 70 metres (230 feet) long by 7 metres (23 feet) wide and high is located in the centre of the plan. Externally, too, departmental divisions are rendered invisible, concealed by continuous horizontal steel bands and the uniformity of the glazing. Because the cantilever of the steel bands varies according to orientation, the 'glass box' presented by the laboratories appears located between them with a subtle asymmetry.



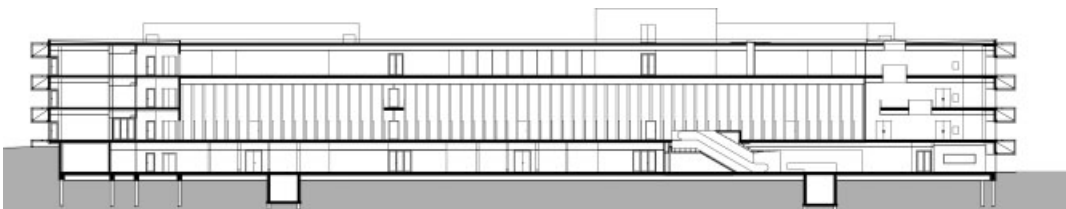
The exterior rises out of a grassy earthwork and has a Donald Judd-like abstraction.



The marble-clad entrance hall is the first of a series of 'rooms' in the building. The windows on the right restrict views out to the surface of a pool that fills the first court.



First-floor plan showing the central hall, the six courts and the corridor between the offices and the perimeter laboratories.



Long section. The entrance connects to the 7-metre (23-foot) high central hall via an enclosed escalator.

Starter Housing, Hoofddorp, Amsterdam

biq

2006

This estate of 144 housing units was intended largely for first-time buyers and construction costs were therefore limited. The relatively low building costs of the pitch roof are exploited in a symmetrical section with the eaves of the roof at first-floor level. This also generates a small-scale domestic architecture.

The section is used in two house types. The starting point was the terraces, which have slender dormers articulating the rhythm of the facade. The end terraces have an additional bay on the ground floor and a hipped roof. As all of the housing is located on the ground floor, the units are also suitable for residents with disabilities. The second house type using this section is semi-detached. Here, too, the end of the row is articulated with a hipped roof. The floor plans are flexible.

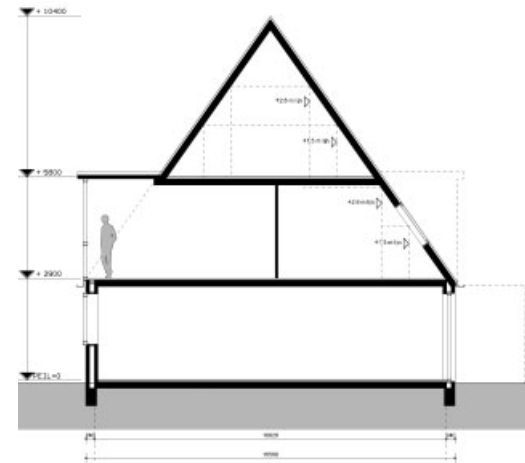
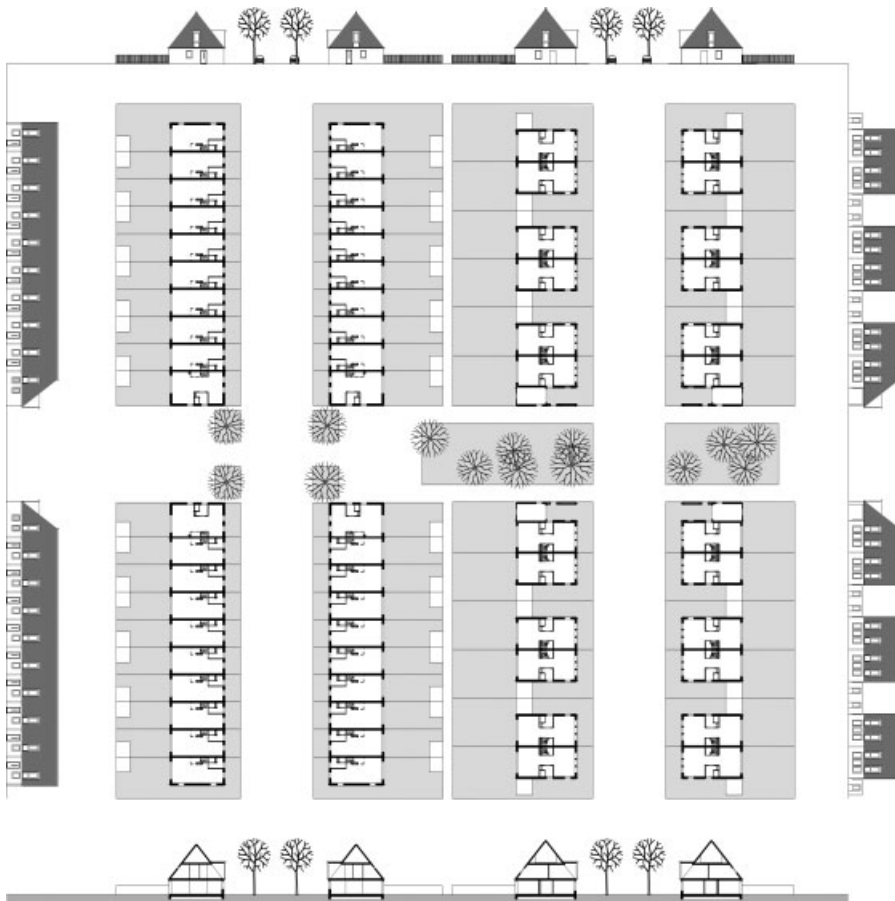
The architecture is simple and very direct, and strongly suggests the pre-Modernist work of Tessenow, May and Dudok. The roofs are finished with concrete tiles, and the external walls use two types of facing brick. The roofs and dormers are fully prefabricated, with solar panels integrated into the ridges. Gutters and downpipes consciously form part of the overall appearance. The window frames to the front elevations project slightly, suggesting they have been stuck on to the facade. Such nuances remind one that the evident ordinariness of these buildings, constructed with traditional products and standard techniques, belies considerable attention from their designers.



The dormers become part of the terrace gables, finished in two types of facing brick. The apparent inevitability of the result recalls early Rationalists such as Tessenow.



The directness of the architecture relies on the articulation of ordinary items such as gutters, downpipes and prefabricated dormers.



The pitched roof starts at eaves level, its steepness providing a second-floor room.

Plan showing the simple row housing. Hipped ends indicate houses with an additional ground-floor bay.



Slender dormers give a rhythm to the facades.

Offices and Underground Parking, Scheveningen, The Hague

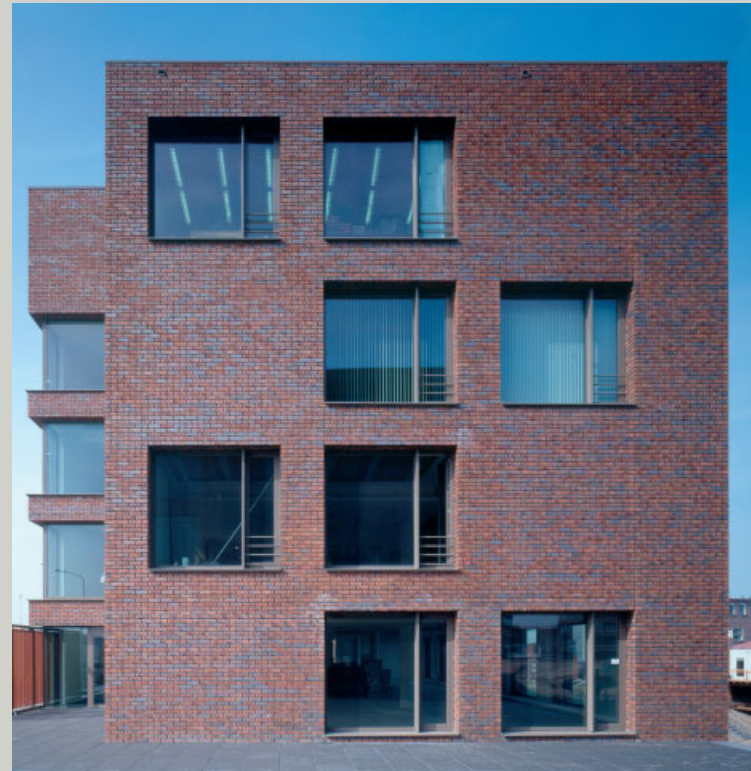
Geurst en Schulze

2002

These twinned office buildings accompany three residential buildings by the same architects, all built around the Second Harbour at Scheveningen. Both consist of an underground car park surmounted by villa-like volumes that appropriate the transparency of the dockside pavilions and at the same time suggest solid walls around the harbour, reinforcing the neighbourhood.

The plans and sections are straightforward. Each building can be divided up into seven office units. The core, housing the plant and lavatories, is clad in timber, as are sound-insulating island ceilings around the interior. Externally the buildings are finished in robust, variegated brickwork that seems to lend a texture to the walls and runs seamlessly into the soffits of the large, deep-set windows – a reductive detail that emphasises the buildings' presence as strong objects, precisely considered and well made.

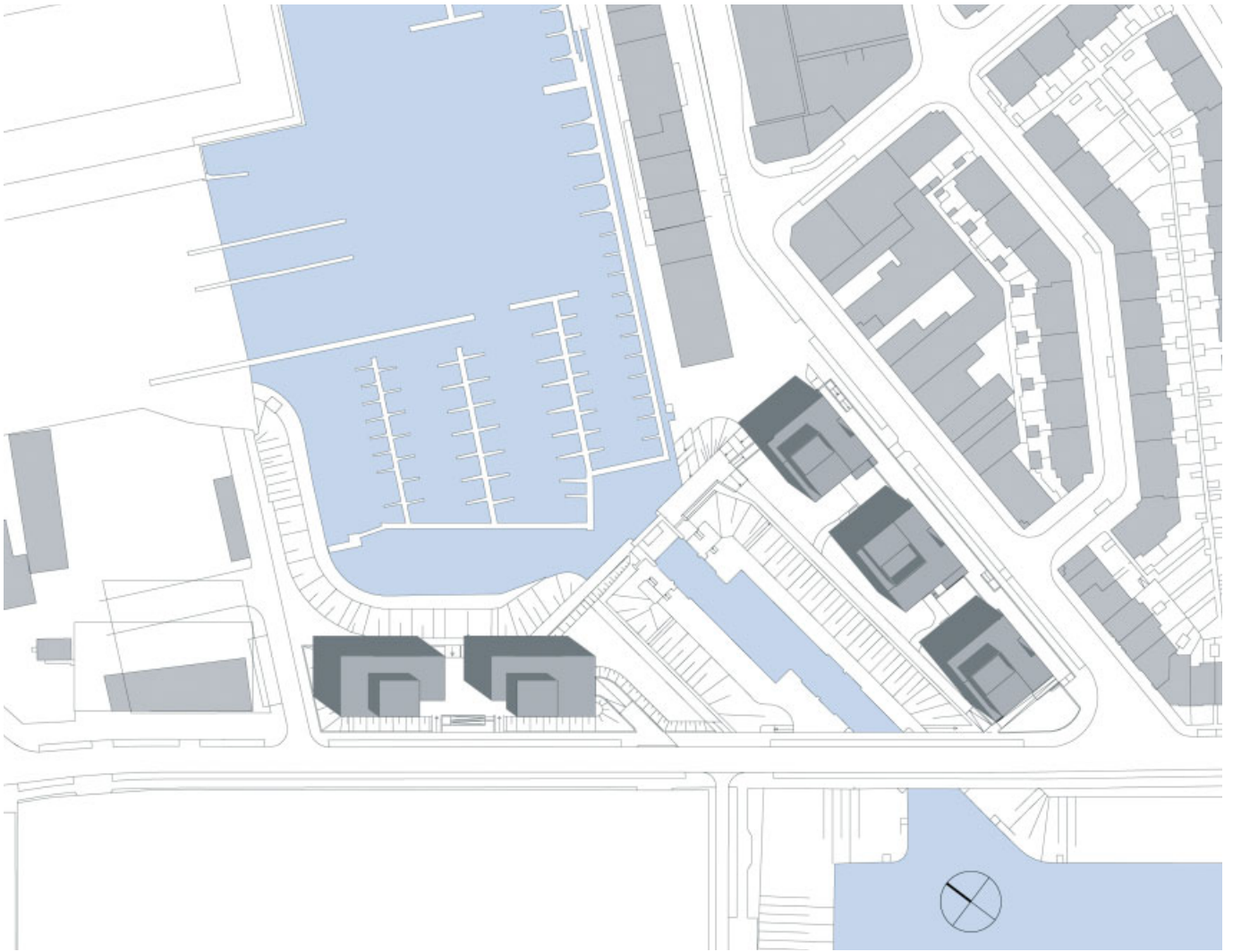
The underground parking determines the development of the offices on top and is emphatically present in the building: its roof forms a communal square between the blocks from which there are views of the harbour. There is a tension about this in-between space that recalls the Smithsons' phrase 'the charged void', but in the presentation of two similar volumes there is more than a glance in the direction of Frans van Gool's 1979 paired generic buildings (also offices) in Amsterdam.



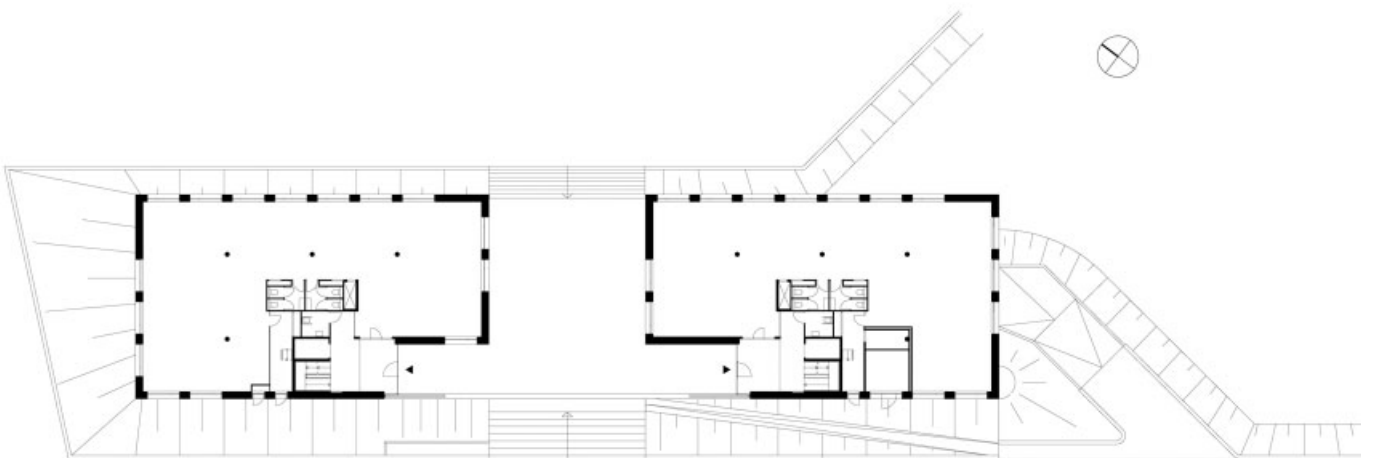
Entrance elevation showing the richly coloured brickwork, deep window reveals and precise detailing. The harbour is to the right.



View across the lock to the paired offices.



The twin offices at the end of the harbour and the materially similar residential buildings (to the right) flanking the lock.



The entrance-level plans of both buildings almost mirror one another across their shared plinth, built over the parking garage.

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Rationalist Practice

De Architecten Cie.

De Architecten Cie. was formed in 1988, but its roots go back to Frans van Gool's work in the 1960s and spread through the pivotal Rationalism of Carel Weeber in the 1970s and 1980s. Now, as then, the Amsterdam-based practice's work represents the antithesis of tendencies towards a 'soft' architectural culture and instead reflects what it sees as the realities of society. Its *oeuvre* is both project specific and influenced by the individual designers, as acknowledged in the captions here; the consistency of De Architecten Cie. lies in its approach.

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Frans van Gool, Het Breed, Amsterdam, 1960.



Frans van Gool, Twin Office Weteringschans, Amsterdam, 1979.



Pi de Bruijn, Dutch Parliament Building, The Hague, 1991.



Frits van Dongen, Florapark, Zoetermeer, South Holland, 1996.



Frits van Dongen, Het Funen, Amsterdam, 2002.



Frits van Dongen, Tricot, Winterswijk, Gelderland, 2002.



Carel Weeber, Peperklip, Rotterdam, 1982.



Carel Weeber, Black Madonna, The Hague, 1985.



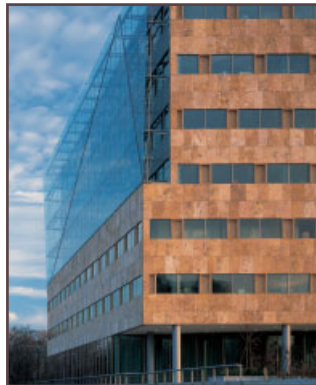
Carel Weeber, Metro Stations, Spijkenisse, South Holland, 1985.



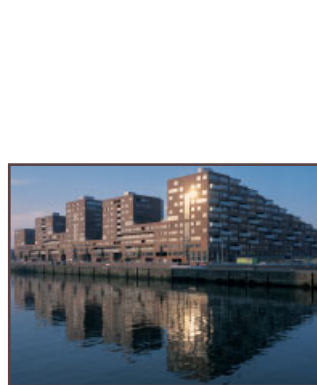
Carel Weeber, De Schie Prison, Rotterdam, 1989.



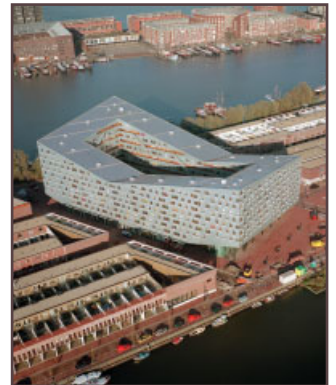
Carel Weeber, De Struyck, The Hague, 1996.



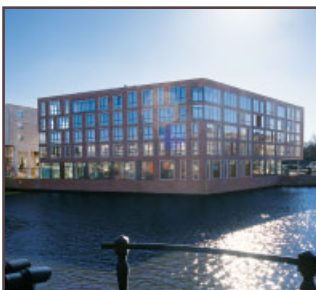
Pi de Bruijn, Zwitserleven, Amstelveen, North Holland, 1997.



Frits van Dongen, De Landtong, Rotterdam, 1998.



Frits van Dongen, The Whale, Amsterdam, 2001.



Frits van Dongen, Botania, Amsterdam, 2002.



Branimir Medic and Pero Puljiz, Acanthus, Amsterdam, 2003.



Branimir Medic and Pero Puljiz, IJburg block 23a, Amsterdam, 2004.



Branimir Medic and Pero Puljiz, Villa de Boer, Enschede, Overijssel, 2005.

French Rationalism

A Broken Tradition

From the golden era of 1960s Rationalism to the present *Inquietude Lucide*, **Joseph Abram** describes the Rationalist tendencies in French architecture. Once dominated by the spectres of Le Corbusier and Auguste Perret, the rational was deeply embedded in French tectonic culture. Despite the current reassertion of the rational, the future, as Abram explains, appears less certain.



It must be made clear at the start, in order to avoid any historical ambiguity, that except for a few rare exceptions there are no traces of Rationalism in contemporary French architectural practice. Although Rationalist attitudes can be observed among the diversity of current trends, these are out of key with the 'great' Rationalist tradition that emerged during the 19th century and continued uninterrupted until the postwar period. To conceive of Rationalism in terms of traces would be equivalent to searching for theoretical remains while assuming a consistent historical temporality. However, there is no evidence of such consistency. On the contrary, everything seems to confirm the existence of a break. The disruption of creative practices that occurred within the field of architecture during the 1970s transformed our relation to Rationalist culture. Contemporary

practitioners who refer back to this lost tradition today only do so in essentially symbolic terms. They acquire a certain historical definition through this use of precedents, but also a degree of fragility.

Today, Rationalism can no longer be simply a matter of belief and is therefore problematic. In order to grasp the issues that stem from these new conditions, it is necessary to analyse two significant periods: the 'productive' years of the 1960s and the 'distanced' years of the 1990s.

1950–1960: Developed Practices

The era immediately after the Second World War favoured the spread of Rationalist trends in France. These had taken a particular form during the interwar period, following the positions adopted by the two major figures of the French architectural culture: Auguste Perret and Le Corbusier.

Viewed as the upholder of the 'great' Rationalist tradition (a coherent lineage that unified the contrasting contributions of Durand, Labrousse, Viollet-le-Duc, de Baudot, Choisy and Guadet, but also engineers such as Eiffel, Contamin and Freyssinet), Perret brought the concept of constructive clarity to the centre of debates on architectural modernity in France. Through the explanation accompanying his work, he provided his contemporaries with a sound conceptual framework that was taken up by the influential journals of the period: *L'Architecture Vivante*, *L'Architecture d'Aujourd'hui* and *Technique et Architecture*. He contributed to the emphasis placed on the status of reinforced concrete with the explicit intention of making it a material worthy of architecture, even going as far as to invent a new classical 'order', comparable with the antique orders but based on modern methods of construction.

With a virtually opposite intellectual dynamic, Le Corbusier, in refusing to consider technology as the basis of architecture, helped the consolidation of Rationalism in his own way. Arguing for the primacy of form and composition against the German *Neue Sachlichkeit* (New Objectivity) movement, he found himself under attack from the defenders of a French *nouvelle objectivité* who reproached him for his excessive preoccupation with aesthetics and clear lack of attention to construction.

This 'objective' tendency; emerging in Parisian thinking close to Perret and identified with Pierre Vago, André Hermant, Eugène Beaudouin, Marcel Lods, Vladimir Bodiansky, Jean Prouvé, Paul Nelson and Oscar Nitzschke, announced the central issue of the postwar period in a heuristic relationship to engineering. It was from 1945 onwards that social and economic changes permitted Rationalist trends to reach a kind of hegemony. The scope of requirements to be met and the new pragmatic imperatives that characterised the 'Reconstruction'¹ allowed the large-



Patrick Weber and Pierre Keiling, House in Issenheim, Alsace, 1992

The house is finished in rough concrete and is at odds with the traditional codes of the prevailing suburban housing design in France.

FRANCE

scale experiments undertaken by Perret in Le Havre, André Lurçat in Maubeuge and Le Corbusier in Marseille. But it was during the 1950s and 1960s that the full potential of Rationalism was realised, to such an extent that we can speak of a tangible 'golden age' of Rationalist architecture in France.

Following the example of Perret, who teamed up with Nicolas Esquillan to realise the aircraft hangars in Marignane (1951), several architects collaborated fruitfully with the most innovative contemporary engineers: André Le Donné, Pierre Pinsard and Pierre Vago would call on Eugène Freyssinet for the construction of the Basilica of Lourdes (1958); Robert Camelot, Jean de Mailly and Bernard Zehruss would work with Esquillan on structural studies for the CNIT (Centre National des Industries et Techniques) Building (1958), and Guillaume Gillet would collaborate with René Sarger to construct the French Pavilion for the International Exhibition in Brussels (1958).

Two generations contributed to the influence of Rationalism. The prewar generation continued to produce significant works: for example, Jean Ginsberg's Résidence de la Muette, Paris (1953); Eugène Beaudouin's Cité Rotterdam, Strasbourg (1953); Marcel Lods' Ensemble des Grandes Terres, Marly-le-Roi (1958); Georges-Henri Pingusson's churches at Fleury and Boust (1963); Paul Nelson's hospitals of Saint-Lô (1956), Dinan (1963) and Arles (1973); and Jean Prouvé's Aluminium Centenary Pavilion (1954), Refreshment Stand in Evian (1957) and Exhibition Centre in Grenoble (1968).



Jean Prouvé (with architect Maurice Novarina and engineer Serge Ketoff), Refreshment Stand, Cachat spring, Evian, Haute-Savoie, 1956
This metal and glass structure pushes the economy of material to the limits.

The younger generation that followed was to produce highly rigorous buildings. Based on the works of their elders, these architects enriched a Rationalist thematic within the framework of the most diverse programmes, whether housing, industrial projects, or cultural or university facilities. Examples here include: Jean Dubuisson's housing in Saint-Germain-en-Laye (1950); Bernard Zehruss's Renault factory in Flins (1951); Guillaume Gillet's Notre-Dame Church, Royan



Marcel Lods, Jean-Jacques Honneger, Xavier Arsène-Henri and Luc Arsène-Henri, Les Grandes Terres Housing Estate, Marly-le-Roi, Paris, 1958
With standardised construction, hierarchy of spaces and mastering of scale, Marcel Lods here conceived one of the best housing schemes of the postwar period.



Fernand Pouillon, Tower block, Meudon-la-Forêt, Hauts-de-Seine, 1962
Inspired by the French classical tradition, Pouillon's stone and concrete towers on this large estate brought a new dignity to social housing.



André Wogenscky, Maison de la Culture, Grenoble, 1968

This multipurpose infrastructure served the 'politics of generosity' led by the French minister of culture André Malraux.



Louis Fleck, Tour des Coopérateurs, Nancy, Lorraine, 1970

With its metallic floors suspended to a central concrete core, this tower elegantly expresses the optimism (in construction) of the 1970s.

(1958); Edouard Albert's housing tower in Paris (1958); Raymond Lopez's Caisse d'Allocations Familiales (1959); Pierre Dufau's Paris sports hall (1960); Henri Bernard's Maison de la Radio (1960); Guy Lagneau, Michel Weil and Jean Dimitrijevic's Beaux-Arts Museum, Le Havre (1961); André Wogenscky's Maison de la Culture, Grenoble (1968); and Louis Fleck's Tour des Coopérateurs Office Tower in Nancy (1970). Many excellent works were built during this period, unified by an optimistic confidence in the resources of Rationalism.² But despite the power of this tradition, it was inevitable it would be broken by the architectural crisis of the 1970s.

1990–2000: Rebuilding a Culture

The fracture of the 1970s was disastrous for French architecture. The country was left in a period of uncertainty, as if suffering from the after effects of its accelerated modernisation. Harsh criticism broke out in professional circles, spreading later to architecture schools, focusing on the unsophisticated urbanism of the large housing estates. Striking a moral chord, this criticism set the tone for peremptory judgements on the whole period, giving rise to a systematic rejection of the best works and of their designers, who were accused of having succumbed to the temptation of overscaled, financially advantageous programmes. New tendencies surfaced within practice and the schools, overrating the importance of drafting and the benefits of composition. A radical caesura was thus created between generations. The few practitioners who could have secured historical continuity, such as the members of the Montrouge studio (Pierre Riboulet, Gérard Thurnauer and Jean-Louis Vêret),³ or those of the AUA (Paul Chemetov, Jacques Kalisz and Christian Devillers et al),⁴ were not to succeed.

The protagonists of a return to the 'city' (Bernard Huet, Roland Castro, Alain Sarfati, Antoine Grumbach, Christian de Porzamparc and Henri Ciriani) pursued linguistic strategies where modernity itself simply became an inexhaustible source of formal references.⁵ By a strange subterfuge, the vocabulary of the 1920s eventually superseded the acknowledged rationale of the 'spatial construction' developed after the Second World War. But such Neomodern kitsch could only produce a travesty of contemporaneity. The works of this 'urban generation' were unable to compete, on a cultural level, with those produced during the same period by the last protagonists of orthodox Modernism: for example,



Janine Galiano, Philippe Simon and Xavier Ténort, Passage Goix tower block, 19th arrondissement, Paris, 2005
Here, a solid volume punched with identical window openings contributes to the definition of the surrounding spaces.

André Wogenscky (Préfecture des Hauts-de-Seine, Nanterre, 1972), Claude Prouvé (Mail Sorting Office, Nancy, 1973), Pierre Dufau (Créteil Town Hall, 1974), Guy Lagneau, Michel Weill, Jean Dimitrijevic (Cité Administrative d'Evry, 1980) and Oscar Niemeyer (Maison de la Culture du Havre, 1983). Late modernity appeared more meaningful than the Neomodern mannerism that sought to enrich it.

But a pause, until the end of the 1980s, was necessary before it was possible to knit back together tenuous links to the past. The 'Correspondances' exhibition, organised in London in 1988, was a milestone in this respect, incorporating works by Yves Lion (artist's studio), Patrick Berger (School of Architecture, Rennes) and Pierre Louis Faloci (house in Antibes). As Jacques Lucan would write in the exhibition catalogue, these architects were trying to 'calm things down' in order to recover 'a coherence and a rationality'.⁶ It was time to reconstruct the subject of architecture, a theme asserted in subsequent projects by the three exhibitors (Pierre-Louis Faloci's museum in Mont-Beuvray, 1995; the Maison de la Photographie by Yves Lion in Paris, 1996; and the Maison de l'Université by Patrick Berger in Dijon, also 1996). In parallel, architects renowned for their constructive rigour, like Renzo Piano and Richard Rogers (Centre Pompidou, Paris, 1977),⁷ and Paul Chemetov (Ministry of Finances, with Borja Huidobro, 1988),⁸ constituted solid points of reference. Jean Nouvel, whose relation to modernity was exempt from formalism,



Jacques Lucan, Tower block, rue des Saulniers, 9th arrondissement, Paris, 2000
A discreet tower suggesting a kind of urban permanence.

provided a different but legible register in his Fondation Cartier in Paris (1993), the Conference Centre in Tours (1993) and the Galerie Lafayette in Berlin (1995).⁹

Other practitioners, like Dominique Perrault (Bibliothèque de France, 1995), Philippe Chaix and Jean-Paul Morel (Musée Archéologique, Saint-Romain-en-Gal, 1996) turned rather towards an aesthetic of simplicity. All were looking to reaffirm the 'craft' of architecture. Numerous buildings from this period testify to a renewed attention given to use and materiality: for example, the house by Jade and Sami Tabet in Paris (1995); the Arts and Human Sciences Faculty in Grenoble by Anne Lacaton and Jean Philippe Vassal (1996); the School of Decorative Arts in Limoge by Finn Geipel and Nicolas Michelin (1996); the kindergarten in Roubaix by Benoît Graftaux and Richard Klein (1996); and the multipurpose hall in Lauterbourg by Patrick Weber and Pierre Keiling (1996). For these architects, the 'expression' of an individual building is manifest in the appropriateness of the means employed. Freed from Neomodern imagery, they naturally rediscovered a Rationalist direction.¹⁰



Hervé Graille, Sports hall, Nancy, Lorraine, 2003

A simple shed provided with the status of a public building and the value of an urban landmark.

These tendencies established themselves at the beginning of the 21st century. There is sufficient evidence in the work of the practices already mentioned to be convinced (Jean Nouvel, Musée Gallo-Romain, Périgueux, 2003; Patrick Berger and Jacques Anziutti, Maroquinerie Hermès, Bogny-sur-Meuse, 2005), but also in the projects of other architects like Gaëlle Peneau (Faculté des Métiers, Bruz, 2000), Bruno Tonfoni (house in Eygalière, 2001), Hervé Graille (sports hall in Nancy, 2003), Edouard François (Tour d'habitation de la Porte D'Asnières, 2004), Florence Lipsky and Pascal Rollet (University Library, Orléans, 2005), Frank Vialet and Bettina Ballus (laboratory in Caen, 2005) and Janine Galiano, Philippe Simon and Xavier Ténor (housing scheme, 19th arrondissement, Paris, 2005), all of which testify to the increasingly self-conscious Rationalism evident in the 1990s.

The coherent direction of this research suggests that a 'collective culture' is about to be reconstituted. But we cannot count, as was the case in the 1960s, on a dynamic of the moment. There is anxiety about the future. Between the cultivated reserve of a Jacques Lucan (*Logements de la rue Saulnier*, Paris, 2000) or of an Eric Lapierre (*Bureaux du Monde diplomatique*, Paris, 2003), and the reasoned pragmatism of engineer-architects like Jacques Ferrier and Jean-Marc Weill (*Projet de tour écologique*, Shanghai) the spectrum of possibilities is more open than is immediately apparent. The period may become a significant one.

The architect of notable housing schemes (in Pantin, in Montrouge, in Meudon and in Boulogne), Fernand Pouillon explained, 50 years ago: 'I wanted a sober architecture, traditional without excess, comfortable in the details, if not luxurious in the Parisian sense of the word: tower blocks

inspired by these banal and pleasant 9th or 10th arrondissement houses, which are significant only by virtue of their proportions and stone construction.'¹¹ Disparaged by the Rationalists of his time, who saw him only as a provocative reactionary, Pouillon ushered in another conception of Rationalism, simultaneously more obstinate and more diffuse, which we acknowledge today as our own. ▢

Translated by Julien Denis

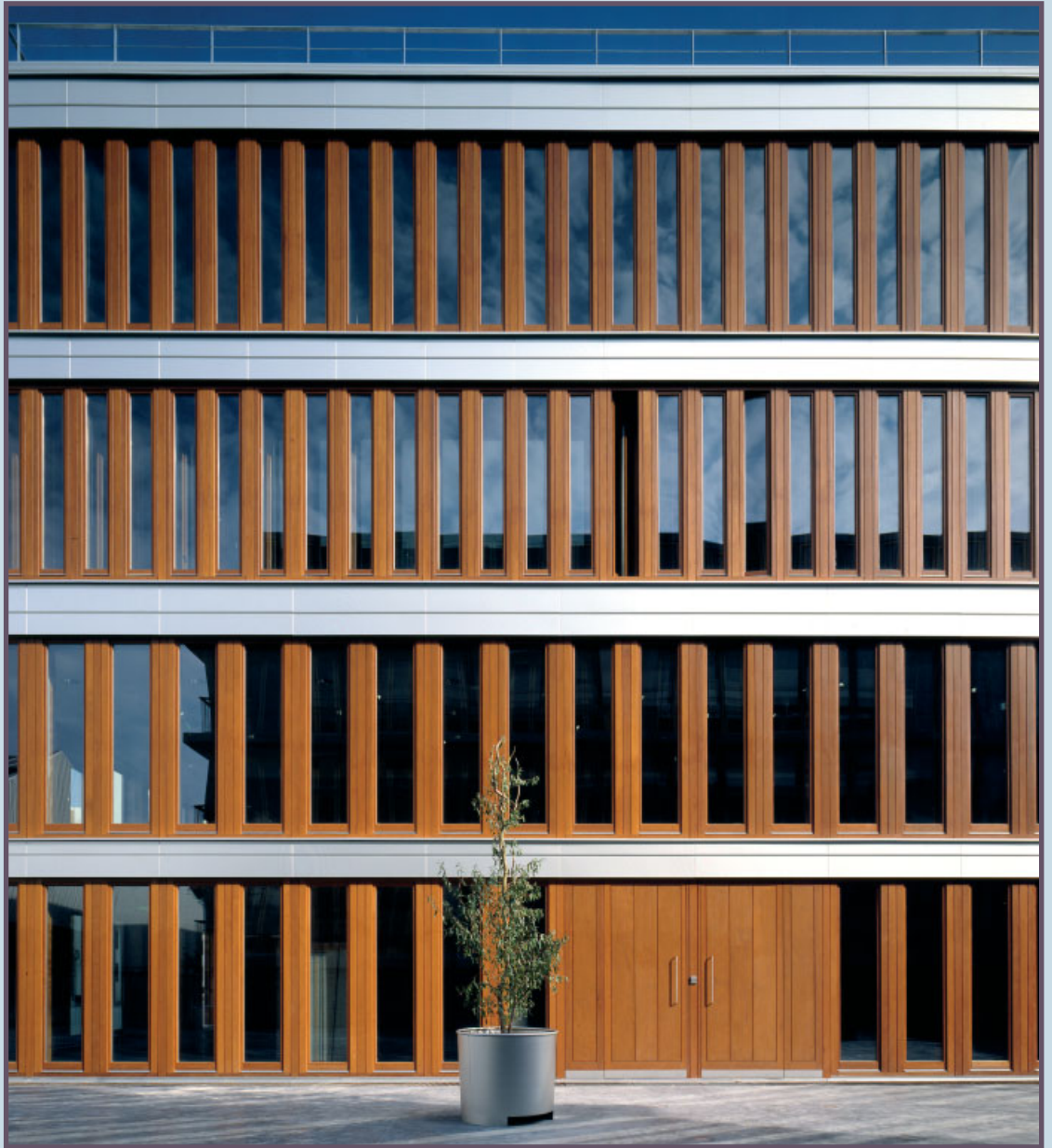
Notes

1. Danièle Voldman, *La reconstruction des villes françaises de 1940 à 1954. Histoire d'une politique*, L'Harmattan (Paris), 1997.
2. Joseph Abram, *L'architecture moderne en France, 1940-1966, du chaos à la croissance*, tome 2, Picard (Paris), 1999.
3. On the Montrouge studio, see Catherine Blain's thesis, *L'atelier de Montrouge (1958-1981). Prolegomènes à une autre modernité* (director: Jean-Louis Cohen), University of Paris VIII, 2001.
4. About P Chemetov and the AUA, see Pascal Blin, *L'AUA: mythes et réalités. L'atelier d'urbanisme et d'architecture, 1960-1985*, Electa Moniteur (Milan-Paris), 1988.
5. On the architecture of that period, see Gérard Monnier, *L'architecture moderne en France, 1967-1999, de la croissance à la compétition*, Vol 3, Picard (Paris), 2000. Also Jacques Lucan, *Architecture en France (1940-2000)*, Le Moniteur (Paris), 2001.
6. See Jacques Lucan's text in the exhibition catalogue *Correspondances Paris-Londres*, Le Moniteur (Paris), 1988.
7. Renzo Piano, *architectures*, Electa Moniteur (Milan-Paris), 1987.
8. Paul Chemetov, *architectures, 1964-2005*, Le Moniteur (Paris), 2006.
9. Olivier Boissière, *Jean Nouvel*, Terrail (Paris), 1999.
10. Joseph Abram, 'Political will and the cultural identity crisis in late-twentieth-century French architecture', in *Premises: Invested Spaces in Visual Arts, Architecture and Design from France 1958-1998*, Guggenheim Museum (New York), 1998, pp 334-5.
11. Fernand Pouillon, *Mémoires d'un architecte*, Seuil (Paris), 1968.

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Selected French Projects

French architecture is on the brink of change. If Rationalist tendencies achieve critical mass, they could prove the catalyst for a dynamic and significant cultural moment. **Joseph Abram** describes some of the buildings that display the full 'spectrum of possibilities' of the reasoned approach in France, from the urban poetics of Patrick Berger to the typological and technological pragmatism of Jacques Ferrier.



The facade rhythm, less tight at ground- and first-floor levels, offers a classical aspect to the building , expressing a sentiment of stability.

Social and Cultural Centre, RATP, Paris

Patrick Berger and Jacques Anziutti with Janine Galiano

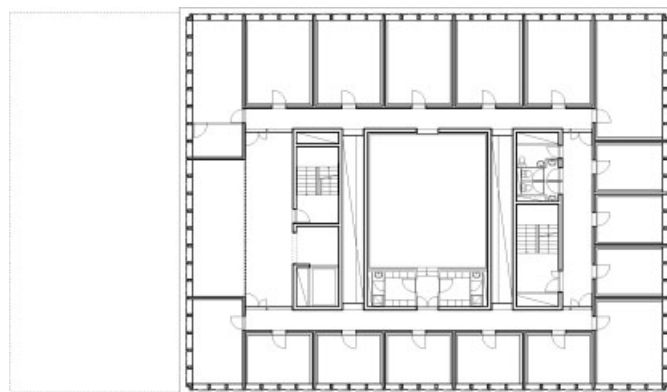
2003

Patrick Berger's work embodies the continuity of the subject. As early as 1988, in his project for the conversion of the railway viaduct in Paris' 12th arrondissement, he explored, beyond widespread formalism, a poetic of the city. This demanded a complex approach to prevailing circumstances and the concrete means to transform them. Completed in 1996, the Viaduc des Arts confirmed in its material conviction the architect's untroubled Rationalism. The urban value of the project lies in the legibility of the composition (magnifying the beauty of the existing ordinariness) and the semantic register of the materials (the exotic timber and glass construction in combination with the old brick arches). Conceived 12 years later, the social and cultural centre for the RATP (Régie Autonome des Transports Parisiens – the major transit authority responsible for public transport in Paris) is testament to these same qualities.

In the 20th arrondissement, on an industrial site undergoing extensive changes (master-planned by Berger), the cultural centre accommodates a varied programme. Completely detached, the building takes the form of a compact block fronted by four identical facades. The plan and section were handled meticulously to express the specificities of the programme. At the heart of the block, four volumes of different scales are superimposed: the *salle des grandes formations musicales* which occupies two basement levels; the multipurpose room situated at ground level; the dance studio; and finally the open-air patio fitted out as a play area for children. Each volume, perfect in its isolation, benefits from a specific treatment. The facades, made out of glass, hardwood and aluminium, are subdivided in a regular pattern, giving the building a unitary but not severe appearance.



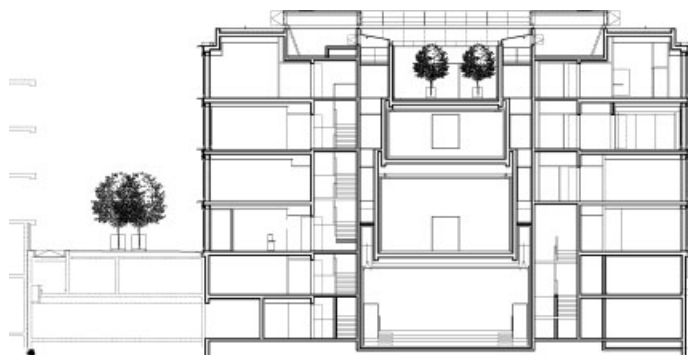
The narrow partitioning of the glass, timber and aluminium envelope gives the building a gentle and yet powerful homogeneity.



Second-floor plan. The dance studio is flanked by staircases and surrounded by the smaller studios of the music school.



One of the two spatial fractures between the central and lateral blocks.



Cross-section revealing the complexity of the programme concealed in the ensemble's volumetric simplicity.

Administration Building, Paris

Jacques Ferrier

2003



The projecting slabs confer a minimalist classicism to the building.

Engineer and architect Jacques Ferrier started his career in London with Foster Associates before opening his own office in Paris in 1990. His work stood out, early on, for the pragmatic character of his method and the simplicity of his formal solutions; for example in his Centre de Recherche de l'Ecole des Mines de Paris in Evry, 1993, and the redesign of the Renault grounds in Guyancourt, 1998. His architecture borrows the technology of the hangar: simple volumes, steel structures and sheet-metal cladding.

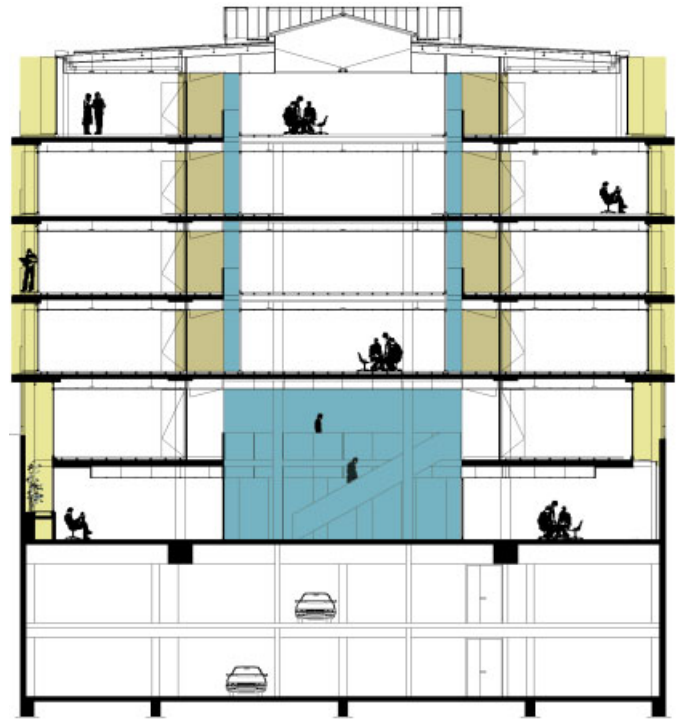
For Ferrier, technology is of primary importance. Architecture can contextualise this through use or a landscape condition. This is an appropriation that can be observed in his best works: the INRA laboratories in the Sophia-Antipolis technology park (1998), the Maison des Canisses in Limoux (with Sandra Planchez, 2001) or the RATP (Régie Autonome des Transports Parisiens) Administration Building in Paris (2003). Located in the Philidor-Maraîchers quarter, near Patrick Berger's RATP cultural centre, this building elegantly expresses the Rationalist principles of its designer. Conceived as a homogenous island, it provides five floors of office space abundantly lit by facades constructed from openable glass panels. The slabs feature a slight peripheral projection, which slims the appearance of the building, investing it with a form of minimal classicism: three transparent layers, held between concrete plates, rest on a crystalline base and are crowned by a recessed top storey, rhythm being generated by the repetition of the narrow module of pairs of gold-powder coated aluminium French windows. Inside, the meeting rooms, service rooms and vertical circulation spaces are located centrally, whereas the offices are distributed along the four facades.



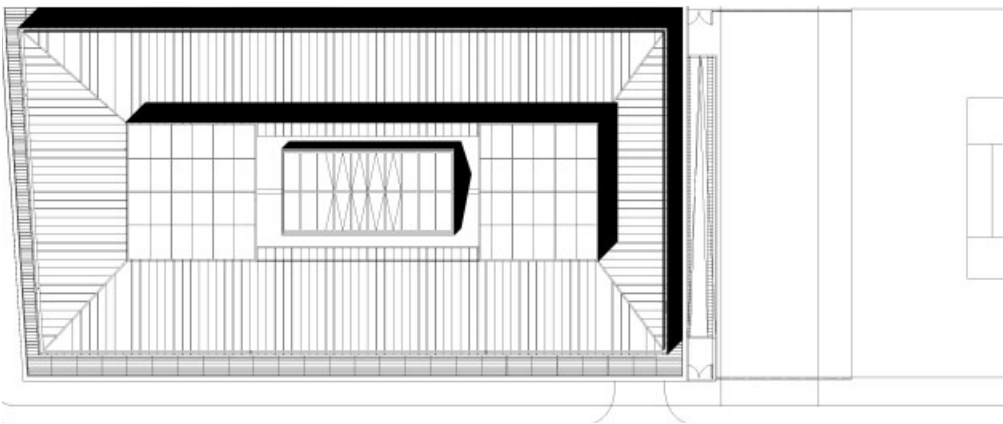
General view from the rue des Maraîchers.



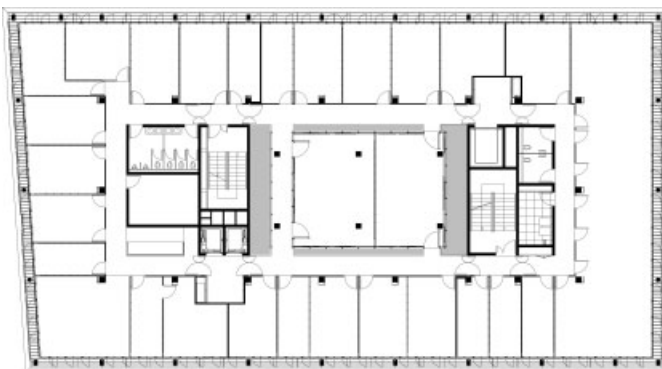
Balconies run the full length of the building.



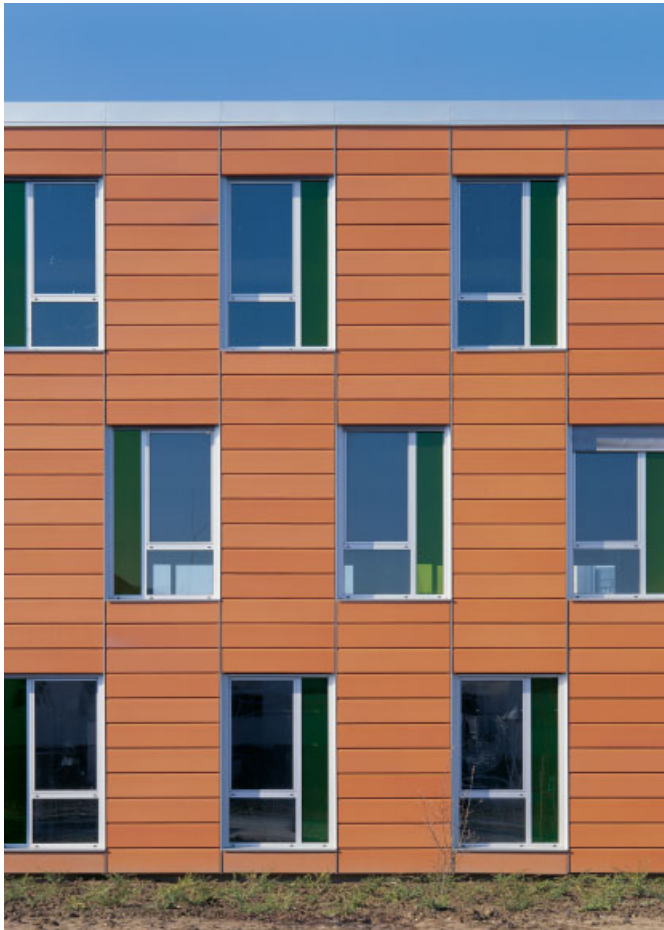
The building offers five floor plates of office accommodation and features a concrete structure with large spans.



Site plan. The building is situated on the corner of rue Philidor and rue des Maraîchers, near Patrick Berger's RATP cultural centre.



Floor plan. The meeting rooms and services are situated in the centre of the building with the offices arranged along the four facades.



Section of the facade showing the play of alternating window positions.

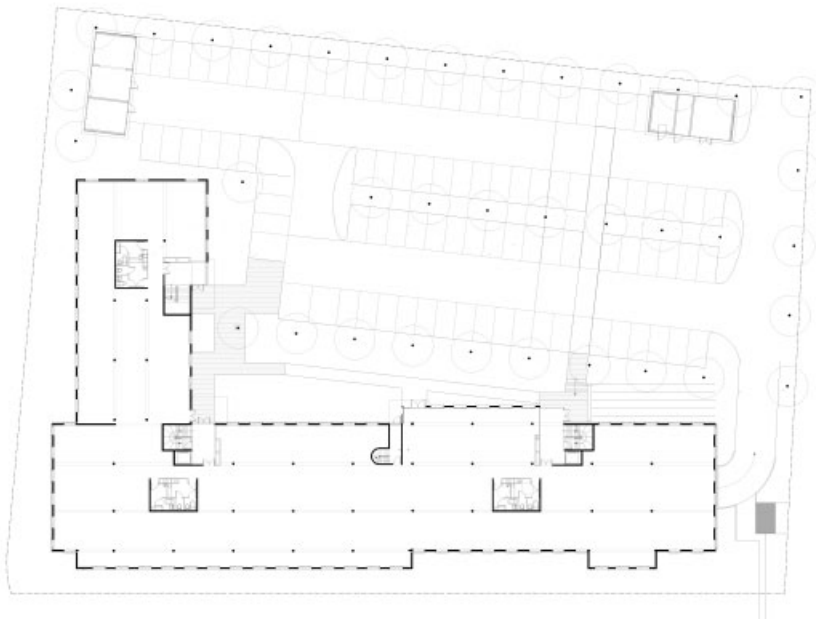
Office Building, Lille

Benoît Grafteaux and Richard Klein

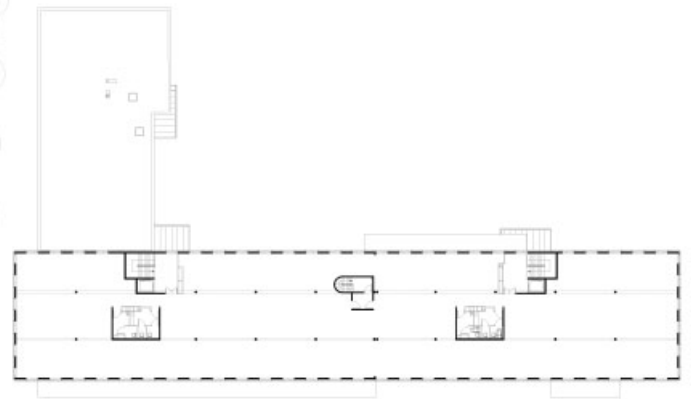
2004

Since the inception of their Lille practice in 1987, Benoît Grafteaux and Richard Klein have realised only a small number of buildings. They have positioned themselves in a singular niche where design can only fulfil its goals at the cost of a certain invisibility: fitting out spaces within existing structures, creating contexts for artwork, and exhibition scenography. Although they have participated, through competitions, in conventional construction (housing, equipment, offices), they have retained the certain reserve, even self-effacement, evident in their first works.

Built on the edge of a boulevard within the Eurasanté Park (which incorporates a number of medical blocks that form part of the city's regional hospital), their more recent office building surprises, at first sight, by its extreme austerity. Observed more closely it reveals an elegant plasticity based on a clever use of technological processes. The architects have taken advantage of the slight level change on site to introduce a half-basement car park, to which they have successfully brought natural light (through metal grids) without affecting the classical stability of the overall structure. The uniform repetition of openings in the building (required by the nature of the programme for undifferentiated offices), far from being a constraint, generated a serial 'mechanical' composition. This was based on the play of alternating bays; the abstraction of elements and colourful contrasts of materials (the grey of the prefabricated concrete, pharmaceutical green of the panes of glass, and red-orange of the terracotta tiles). The mode of composition (or rather of anti-composition) is not the functional product of technology. It resembles instead the pictorial abstraction of the 1960s, of which Klein himself is a thoughtful connoisseur.



Ground-floor plan. Situated close to Lille's hospital complex, the building is composed of two slabs articulating an L-shape.



Second-floor plan. The reinforced concrete skeleton is composed of rows of columns and load-bearing 'foils' in the facade.



The facades were conceived as large terracotta screens. The projecting sections are made of prefabricated concrete panels.



Gable wall. Breakdown of the facade showing the rhythm of the panelling.



The building draws its original character from the expression of the technologies employed and its volumetric disposition.



East elevation. The composition of the elevations reflects the repetitive arrangement of the internal spaces.

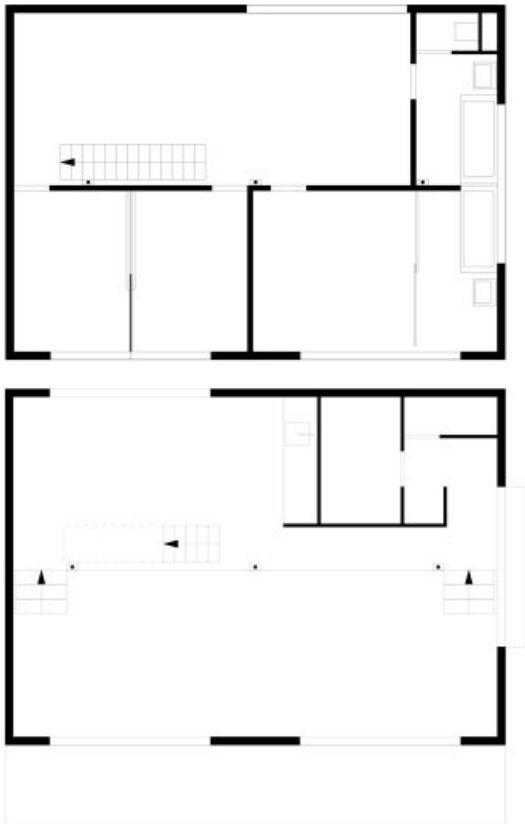
House, Nancy, Lorraine

Christian Vincent and Sébastien Gschwind

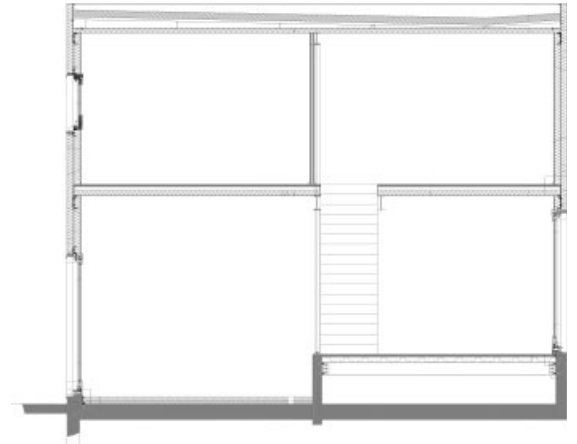
2003

Built on the heights of Nancy, close to the house of Jean Prouvé, this modest work testifies to a reasoned approach to constructional techniques and spatial organisation. It seems to accommodate, in a simple way, a lifestyle close to nature, generally associated with lightweight architecture. Discreet, it is sympathetic to the trees, the lean-to roofs and the walls that make its garden pleasant. Outside, the house presents itself as a large parallelepiped made of three basic elements: a module of folded sheet metal (repeated to constitute the envelope) and two windows in laminated timber, one high and wide, the other low and long, each duplicated four times. The house therefore features eight openings, whose proportions are used to create a set of formal relationships (between inside and outside, between walls and voids, base and top) suggesting a classical layering.

Inside, the space is organised in two volumes to absorb the slope of the terrain. The high cost of the land left only a small budget for construction. Using an efficient industrial system was a response to these constraints. An active structural envelope in folded sheets of steel is lined with a system combining metal studs, plaster and glass-fibre insulation. The house results from a synthetic conception. It exploits technology to push the ideal of economy to an extreme, creating a simple object, but one of a surprising semantic richness.



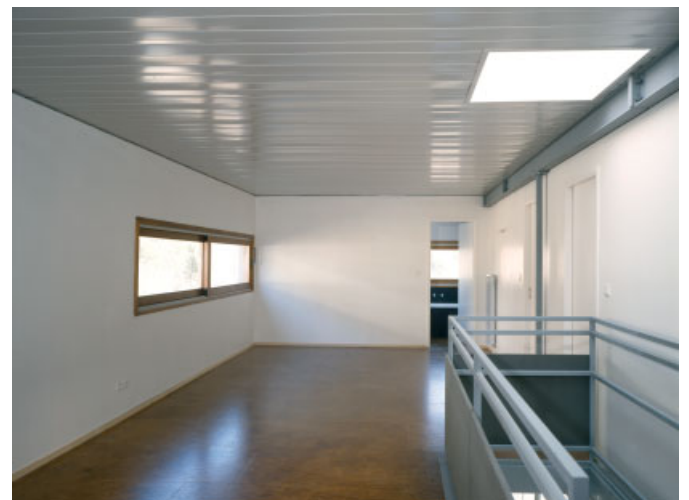
Ground- and first-floor plans. Conceived as a big metal box, the house employs the Cibbap system, which allows transfer of the loads to the building's periphery.



Section showing the industrial module of folded sheet metal and two types of handcrafted laminated window frames.



The entrance door, indicated by a step, is a sliding element and identical to all the other openings at ground-floor level.



The bedrooms and children's play area are on the first floor.



The ground floor is organised into two volumes, containing kitchen/dining and living rooms respectively.



The window proportions allow for formal relationships between the inside and the outside, the solids and voids and the base and top.

Translated by Julien Denis

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An Open and Flexible Tradition

There is a rich tradition of Rationalist architecture in Spain, dating back to the years immediately after the Spanish Civil War and then the period of postwar recovery in the 1950s. **Josep Maria Montaner** explains how this has developed across time into a contemporary interpretation of Rationalism that is versatile and inclusive, often combining Functionalist ideas with a stripped-back repertoire of materials and elements.



The Rationalist tradition in architecture first took root in Spain during the 1930s with the appearance of the avant-garde, architects' participation in the various Congrès Internationaux d'Architecture Moderne (CIAM), and the establishment of two similarly named groups to promote contemporary architecture: the GATEPAC in Spain and the GATCPAC in Catalonia.¹ Rationalism then surfaced at different times, but especially during the years after the Spanish Civil War of 1936–39. It was especially evident during the 1950s in the work of masters such as Alejandro de la Sota, Francisco Javier Sáenz de Oiza, José Antonio Coderch, Josep Maria Sostres and Xosé Bar Boo. Josep Lluís Sert, too, made an important contribution as president of the CIAM from 1947 until its dissolution after 1956. This Rationalist line is still relevant today.

Influential throughout was the presence (or absence) of certain works, in particular Mies van der Rohe's German Pavilion, built for the 1929 World's Fair in Barcelona, disassembled at the fair's conclusion six months later and then reconstructed in its original location in 1986. But of all the masters, Le Corbusier was the most admired by Spanish architects. He not only visited Barcelona in 1928, 1931 and 1932, but also collaborated on the *Plan Macià* of 1933. This plan to modernise the structure of the city was prepared during the Spanish Second Republic and dedicated to Francesc Macià, then president of the Generalitat, the autonomous government of Catalonia. It used the new theory of 'division by zoning', according to which the city was to have a new geometrical order (based on Cerdà's *Ensanche*, the original 19th-century enlargement of the city) and an extensive area of residential blocks.

During this period, young Catalan architects such as Sert, Josep Torres i Clavé, Joan Baptista Subirana, Sixt Illescas and Germán Rodríguez Arias joined GATCPAC and dedicated themselves to promoting contemporary architecture. They achieved emblematic works such as the Tuberculosis Hospital (1938) and the Casa Bloc (1936), both in Barcelona.

In the 1950s, the recovery of Modern architecture brought with it a revitalisation of Rationalist characteristics, evident in new social housing projects such as the *poblados dirigidos* on the outskirts of Madrid. These were a large-scale operation undertaken to urbanise slum settlements, characterised firstly by residents building their own homes and secondly by the involvement of architects including Francisco Sáenz de Oiza, Antonio Vázquez de Castro, José Luis Iñíguez de Onzoño, José Antonio Corrales, Ramón Vázquez Molezún, José Luis Romany and Rafael Leoz. Towards the end of the decade, even Franco's dictatorship adopted Rationalism to represent its official architecture. The Spanish Pavilion at the Brussels Universal Exposition (1957/58) by José Antonio Corrales and Ramón Vázquez Molezún, and the Spanish Stand at the Milan Triennale of 1957, by Francisco Javier Carvajal and José Maria García de Paredes, are examples.



Josep Lluís Sert and Josep Torres i Clavé, Tuberculosis Hospital, Barcelona, 1938
This early Rationalist masterpiece was completed during the Spanish Civil War.

Also key to this period is the work of Alejandro de la Sota, who developed a simple and rational architecture inspired by vernacular forms and by the expression of forces, structure, function and materiality. His work is characterised by compositions of directly articulated volumes with flat facades, for example the gymnasium of the Colegio de Nuestra Señora de las Maravillas (School of Our Lady of Miracles) in Madrid (1962) with its giant roof structure derived from Constructivism.

Rationalism and Minimalism

In Spain, this Rationalist tradition has evolved in an open and flexible way and appears today in the work of architects such as Manuel e Ignacio de Las Casas, José Manuel Gallego Jorreto, Josep Llinás, José Ignacio Linazasoro, Carlos Ferrater, Josep Lluís Mateo, RCR (Aranda, Pigem and Vilalta), Alberto Campo Baeza and many others. For this new generation, Rationalism also means flexibility and versatility, technology and efficiency, and can lean – more radically – towards the delirious perfection sought by minimalism. For example, the architecture of university buildings, which has been enormously influential in the development of Spanish architecture, continues to be dominated by Rationalist forms and Functionalist ideas. In essence, this type of architecture is a response to the programme of uses and the conditions of the site. In the works of Basilio Tobías at Building A of the Campus Politécnico (1999) in Zaragoza, these two fundamental starting points contribute to an experiment where discretely expressive forms arise from the relationship between the building and its surroundings, and from the quality of the chosen materials.

Basilio Tobías, Building A, Campus Politécnico, Zaragoza, 1999

Discretely expressive forms arise from the relationship between the building and its surroundings.



JL Iñíguez de Onzoño and Vásquez de Castro, Housing projects, Caño Roto, Madrid, 1959

An example of the new housing projects that revived Spanish Rationalism in the 1950s.

This idea of staying faithful to functional requirements and using a limited repertoire of materials is evident in the work of Sevillian architects Fernando Carrascal and José María Fernández de la Puente. Most of their projects are residential buildings, like the subsidised housing units on Calle Vírgenes in Seville (1997), which are adapted to the irregular conditions of the existing site in order to create a series of courtyards, corridors and pedestrian passages. Their residential projects include two summer houses in Punta Umbría (1998), which show the influence of strict Rationalism and aesthetic minimalism. However, most of their projects are university buildings, such as the Edificio Científico-técnico of the Escuela Politécnica Superior of the University of Almería (2000) and the Escuelas Universitarias in the University of Huelva (2001).

In his projects, the discourse of the Catalan architect Josep Llinàs forms part of what we might term the complex inheritance of Alvar Aalto and Jörn Utzon – of ‘organic Functionalism’. It is sometimes close to an austere Rationalism and systematic minimalism, following Dutch and German ‘New Objectivity’ yet responding to the forms of Alejandro de la Sota. At other times his work is enriched with the organicistic exuberance of Antoni Gaudí and Josep Maria Jujol. But overall, the work of Llinàs adapts itself to its context by being almost neutral, such as in the extension to the Facultat de Derecho (Faculty of Law) in Barcelona (1996), or in the way it makes an urban contribution through the extension of the site, as in the housing on Barcelona’s Calle del Carme and Calle d’en Roig (1993–1995), and those on Calle En Serra Xic and Plaza de Sant Agustí Nou (2001–06).

Interventions such as the housing on Calle En Serra Xic reveal a respect for that which has accumulated over time, the value of what remains, and the quality of the old juxtaposed with the new. The internal spaces in Llinàs’ public buildings are of a very high, somewhat mysterious quality achieved through the superimposition of platforms in double-height rooms with lightwells that direct natural light into the spaces.

In fact, Catalan architecture includes as much the exuberant, organic and expressive tradition of Gaudí’s Art Nouveau as it does simplicity and the Rationalist tradition; that is to say, it includes a range from Cistercian monasteries and Catalan Gothic churches, such as Santa María del Mar, through the inheritance of Mies’ Pavilion in Barcelona, to the *El Noticiero Universal* newspaper building (1965) by Josep María Sostres, also in Barcelona. The synthesis of expressiveness, and visual and platonic purity demonstrated in Llinàs’ projects had already been developed in the work of José Antonio Coderch. In the case of Llinàs, this synthesis leads to a search for an architecture made out of time and the city: a kind of architecture in search of anonymity and neutrality, the aim of which is to grow naturally and empirically.

Recent Examples

The work of Carlos Ferrater is a good example of experimentation that begins with a type of material and structural Rationalism, for example in his IMPIVA Technopark offices in Castellón (1996), school in Lloret de Mar (1996), and film studios in an industrial zone on the periphery of Barcelona (1997). Moving beyond structural typologies, the search commences for more basic – perhaps more eternal – forms. The work of Ferrater’s team for the IMPIVA project opts for a clarity influenced by the Neoplasticism of Piet Mondrian and Theo van Doesburg, and by the Suprematism of Malevich:



Josep Llinàs, Housing units, Calle del Carme, Barcelona, 1995

Llinàs’ work adapts itself to context, the new housing units here respecting the original urban fabric.



Fernando Carrascal and José María Fernández de la Puente, Subsidised housing, Calle Vírgenes, Seville, 1997

For this project, the architects carefully adapted the programme to the irregular conditions of the site.

silent signs, walls without apertures, prismatic volumes, five solid boxes with abstract openings. It is a platonic world of pure solids that generates a dynamic vision that pierces the pure volumes and allows the different prisms to be perceived in their variety of materials and textures: prefabricated elements in concrete, timber and metal. In this case an extreme, and highly precise, Functionalism is resolved by using the prisms in a Suprematist composition where each activity has its own autonomous location.

All of the RCR architects (Rafael Aranda, Carme Pigem and Ramon Vilalta), based in Olot, Girona, graduated from the

Escuela de Arquitectura del Vallès. They rehearse an architecture based on the perception of pure objects and of fully daylight interiors. Their work in the field – houses, civic centres and sports grounds – uses calm forms that interpret the site: its light, atmosphere, materials, textures and views. Their architecture is influenced by Japanese contemplative asceticism, rooted in Zen Buddhism, but also by a mechanistic interpretation typical of minimalism. Several of their projects demonstrate a similar position to the work of Richard Serra, and follow the notion of site specificity; for them, nature turned into landscape is one more human creation. The Casa Mirador (1999) possesses a spectacular view of the area surrounding Olot. Extremely horizontal, it is divided into two distinct bodies, one of which is the kitchen and service zone, the other the bedrooms and the living areas. The two volumes produce an impression of lightness, reconciling pure solids with the large transparent and translucent openings that make up the interior spaces.

RCR present us here with a domestic scale model that continues to explore the idea of a perfect form carefully inserted into a place. The house is versatile in use, lightweight technologies are employed, and the poetics of minimalism are evident. But in addition, in its integration with its surroundings and its sequence of spaces, it is reminiscent of an older example: Mies' first American project, the Resor House (1938). Evidently Rationalist traces continue to breathe life into contemporary Spanish architecture. ▴

Translated by David A Vila Domini

Note

1. In Spain, the Grupo de Artistas y Técnicos Españoles para el Progreso de la Arquitectura Contemporánea (Group of Spanish Artists and Technicians for the Advancement of Contemporary Architecture), or GATEPAC; in Catalonia the Grupo de Artistas y Técnicos Catalanes para el Progreso de la Arquitectura Contemporánea (Group of Catalan Artists and Technicians for the Advancement of Contemporary Architecture), or GATCPAC.



Carlos Ferrater and Carlos Bento y Jaime Sanahuja, Offices, IMPIVA Technopark, Castellón, 1996

In this project, searching beyond structural typologies resulted in basic forms allied to a dynamic vision.

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Selected Spanish Projects

Josep Maria Montaner describes four buildings that epitomise the flexibility of the Rationalist tendency in Spain. These span the Mies-inspired minimalism of Javier Garcia Solera; housing schemes that are designed around the present needs of their occupants for adaptable and well-ventilated spaces, despite being influenced by earlier Rationalist vocabularies; and Carlos Ferrater's JC Decaux Headquarters in Madrid that uses 'the order and tradition' of Modernist architecture to create continuity with existing buildings on its site.



The prismatic form is crisply detailed and well constructed.



The main entrance at the lower level.

Housing for the Elderly, Sant Vicenç del Raspeig, Alicante

Javier García Solera

2005

The project is based on a minimalist repetition of a single module – a horizontally arranged unit with vestibule, storage cupboards, bathroom, kitchen, dining/living room, and a bedroom – within a long, flat, reinforced-concrete prism of great constructional quality and crispness. Indeed, the horizontality of the building's pavilions and the precision of its technical detailing recall the architecture of Mies van der Rohe.

The individual units enjoy a good amount of daylight, are cross-ventilated, and extremely flexible due to their longitudinal shape and almost free plan.

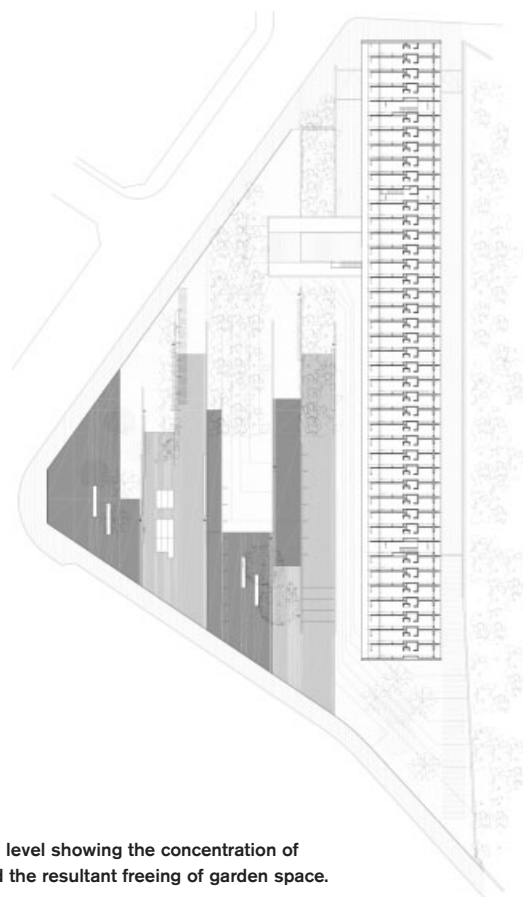
The building has a considered and agreeable relationship with its urban context, the unusually large amount of public garden space the result of concentrating the structure in a single linear block. This method can also be seen in other of Solera's works, for example his well-known Classroom Block III at the University of Alicante (2000) where the abstract shape and simple volumes organised and regenerated the context. Here, again, within a large, gently sloping, triangular plot, the building defines the edge of the new urban landscape.

Again typical of Solera's projects, the sheltered housing block in Alicante is shaped as if it were floating, here on a smaller and semi-buried lower storey over which is cantilevered the main volume of the building. In addition, the extensive use of glass in large planes allows a symbiotic relationship with the surroundings.

Section. The main level of accommodation is placed over a smaller, semi-buried lower storey that includes the main entrance and parking.



Plan at dwelling level showing the concentration of the building and the resultant freeing of garden space.



The repetition of similar accommodation articulates the long, flat block.

Social Housing, Carabanchel, Madrid

Mónica Alberola and Consuelo Martorell

2004

Situated in a southern suburb of Madrid, and part of a new city expansion project made up of housing blocks, the 122 units here are an attempt to provide the public open space that is lacking in this area. They take their inspiration from the Spanish Rationalist architecture of the 1950s and the work of Alison and Peter Smithson in the UK.

The designers' aim was to establish two very different typologies: a tall, six-storey block, built over ground-floor commercial premises, and two parallel blocks of three-storey dwellings. A large communal garden-courtyard is created between these. The amount of useful space within the small dwellings is extended by using this courtyard as well as the 2.5-metre (8.2-foot) wide footbridges that cross it and offer intermediate areas that encourage social interaction.

The tall block is cross-ventilated and arranged around staircases that give access to the housing units from the landings. The low blocks enjoy a diversity of facades – overlooking the large garden-courtyard, the smaller courtyard or the surrounding area. All the dwellings have two bedrooms. A central kitchen – the heart of the house – is surrounded by a plan in which the absence of almost any dedicated elements creates a flexible and versatile living space.



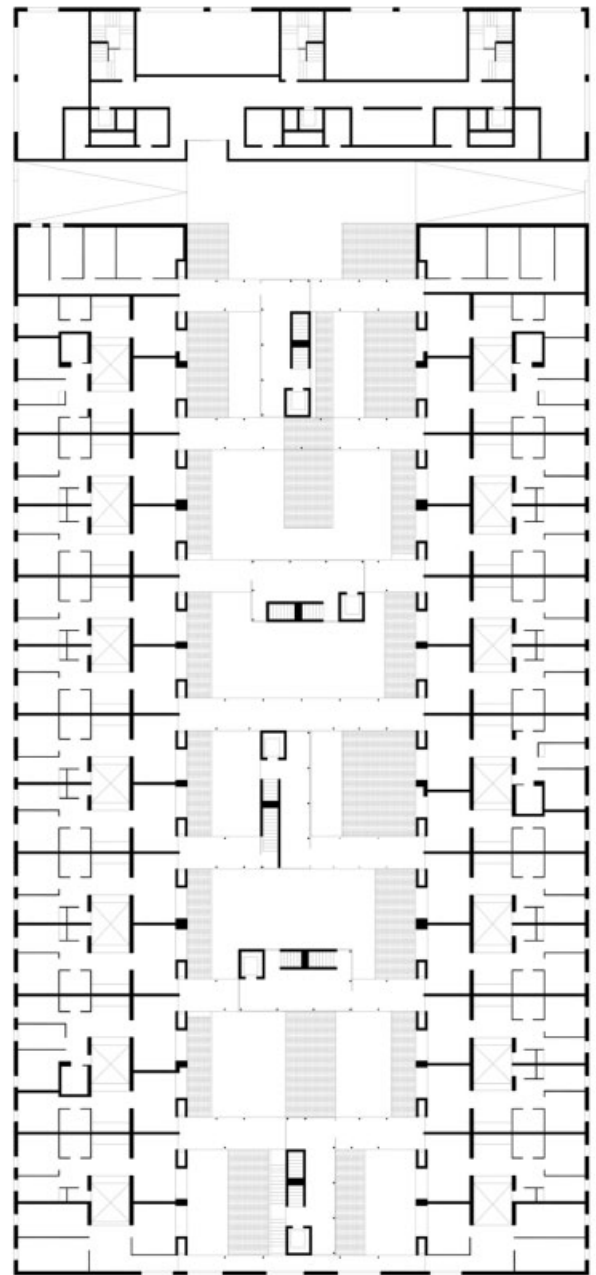
The footbridges and circulation in the garden court lend space to the small dwellings and encourage social interaction.



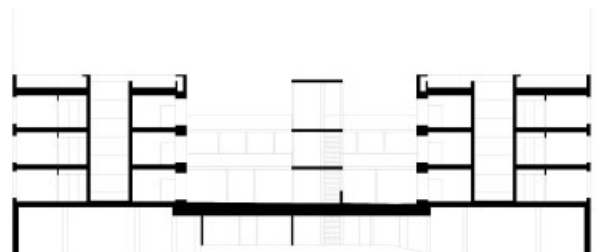
View from the street. There is a clear differentiation between the blocks.



Communal garden court between the three-storey blocks.



Plan. Much-needed areas of open space are located within the development between the blocks.



Cross-section. Two blocks of three-storey housing face each other across the communal court.



Social Housing, Actur-Lakua, Vitoria

Roberto Ercilla, Miguel Ángel Campo and
Francisco Mangado

2002

Developed by the Basque government, the complex consists of 168 units on the periphery of Vitoria in a locality made up of a compact, well-ordered arrangement of orthogonal, medium-sized city blocks constructed in the 1970s. The units are situated on the northern edge of this area, grouped in four large, longitudinal blocks – a strong architectural reference point in relation to the large open space close by.

Each of these large blocks is composed of connected parallel sub-blocks. These are built around their own central open space, which is covered with glass to suit the local climate – cooler and wetter than much of Spain – and which contains the lifts and stairs, thus encouraging communal usage.

The housing units themselves feature a number of design elements that enable users to adapt and change the spaces: the windows of the facade are standardised behind a continuous balcony; the wet zones of kitchen and bathroom are arranged in a single linear band; flooring is in one continuous material; and internal partitions are made of plasterboard. The construction method adopted also means that the dwellings can be subdivided to suit different family sizes, even allowing for a separate zone for home-working close to the entrance of each apartment.

Each apartment has two facades – one external, the other looking on to the glass-covered courtyard – to enable cross-ventilation. The facades have ventilated cavities, and are lightly clad with modular cellulose, fibre-cement and natural-fibre panels. Thermal efficiency is maximised via the use of features such as high-thermal-mass floor structures.

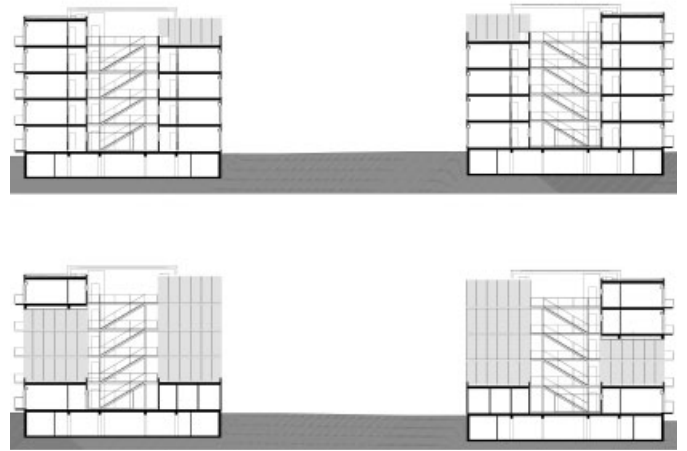
The facades are interrupted by giant openings to the covered space beyond.



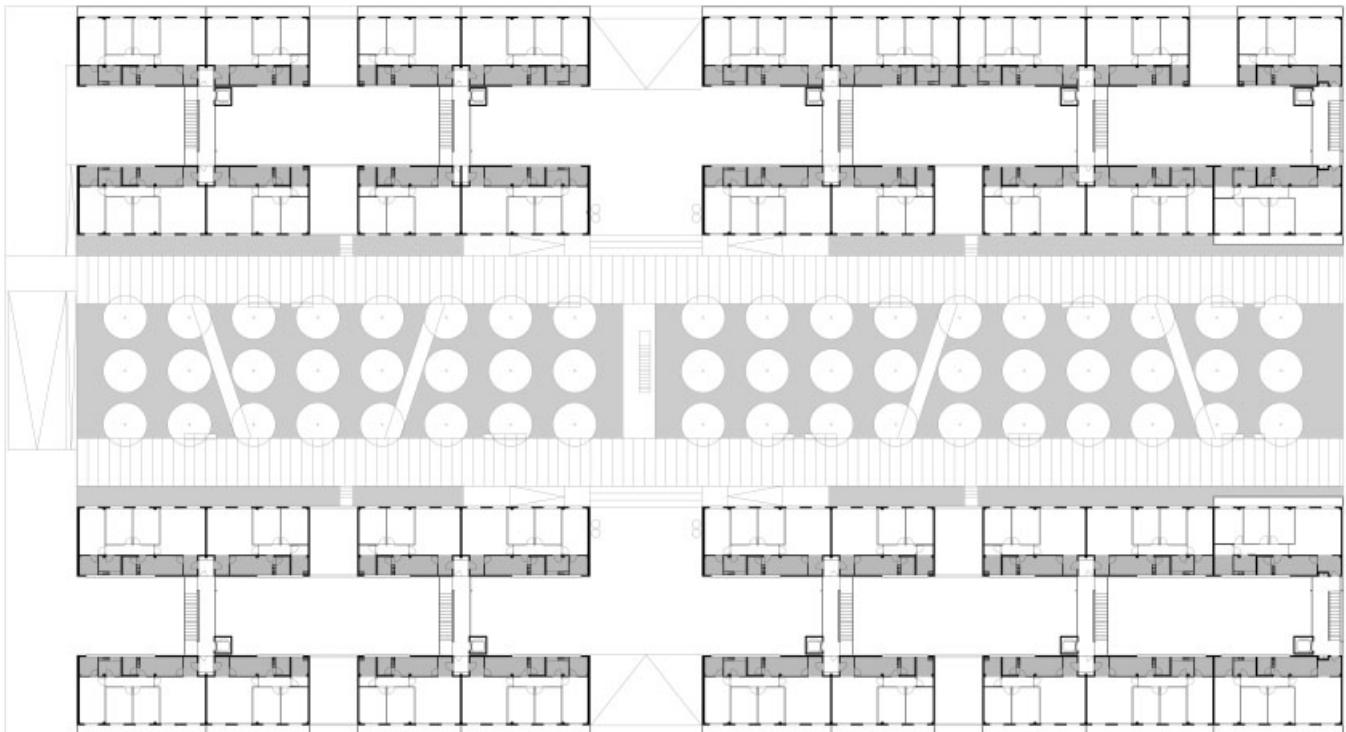
The court under the canopy includes vertical circulation and is intended to promote communal usage.



Each pair of buildings, linked by a rain canopy, forms a single strong block and makes a strong reference point for the neighbourhood.



Cross-section showing the relationship between the covered open spaces and the external courtyard.



Plan. The paired blocks share a covered open space.

JC Decaux Headquarters, Madrid

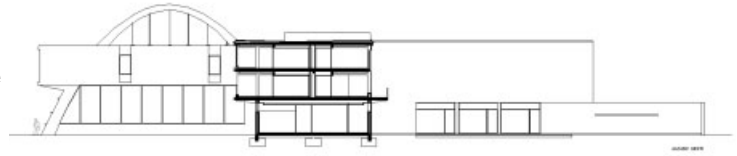
Carlos Ferrater

2001

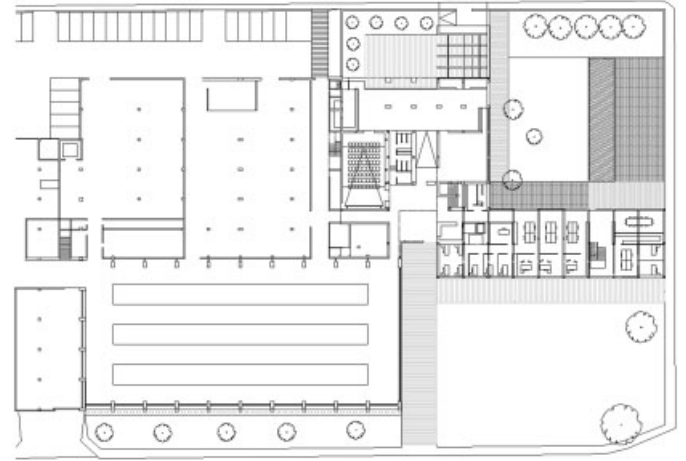
The new headquarters for JC Decaux, a multinational company known for its outdoor advertising and street furniture, occupies the old Martini and Rossi factory complex. This protected ensemble, built at the beginning of the 1960s by the architect Jaime Ferrater de Ramoneda, is made up of three parts – a large, vaulted space supported by clearly expressed structural arches, an administration block, and a series of warehouse and service spaces – all of them built using the purest Modern Movement language and technology.

The new interventions are based on three key principles similar to those used by Ferrater's team on other adaptations of buildings of historical importance, such as the Museo Industrial del Ter in the old Sanglas factory in Manlleu (2003). These are to remove additions and transformations that might have obscured the precision and original characteristics of the group, to respect the character of the space and the construction of the interiors, and to restore the original facade. The architects introduced all necessary changes for a new programme of uses, including opening areas to the public. A series of voids were made in the floor plates in order to improve the levels of natural lighting in public areas such as the entrance, and the old bottling plant was converted into a showroom of urban furniture (by designers such as Starck and Foster). On the first and second floors are the offices, administration and management.

There is a considerable degree of continuity between the interventions and the existing buildings. The old (in this case, Modernist, post-Civil War architecture) and the new (which in these eclectic times has been realised within the order and tradition of Modernist language) are difficult to distinguish: in other words, present Rationalist traces have entered into a symbiotic relationship with the Modern architecture of 1950s and 1960s Spain.



Cross-section showing the courts and the vaulted structure beyond.



Ground-floor plan. There is a considerable continuity between the existing structures and the new interventions.



Facade to the garden. The new composition follows the Rational language of the older buildings on the site.



The interior of the entrance hall demonstrates the Modern Movement language of the whole ensemble.



Night view with the arch of the old structure to the left.

Translated by David A Vila Domini

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Lucia Tozzi is a freelance journalist based in Milan. She is a regular contributor to *il manifesto*, *Lo specchio de La Stampa*, *Mousse Magazine* and *Abitare*, and has also written for *Domus*, *Reset* and *Studi culturali*.

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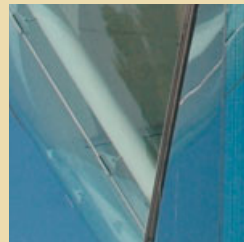
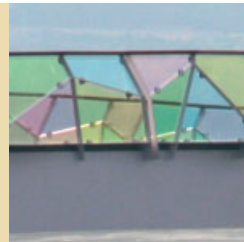
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Foster + Partners' Hearst Tower and Gehry Partners' IAC Building

The two most interesting, talked about new office buildings in New York both have unique angular profiles and unusual shiny surfaces that have irrevocably changed their neighbourhoods. Jayne Merkel takes a peak at the interiors of Norman Foster's triangulated steel-and-glass Hearst Tower and Frank Gehry's curvaceous, white-glass hulk for the IAC/InterActiveCorp. In so doing she sizes up what effect the exotic exteriors have on the spaces where the editors, writers, designers and media executives work.

Twenty years ago, the site of Gehry Partners' IAC Building, on what is now the southwestern edge of the art gallery district in Chelsea, was a mix of small industrial buildings, automobile repair shops, warehouses and brothels. In contrast, the site of Foster + Partners' Hearst Tower on West 57th Street, a block south of Columbus Circle, was occupied by a quirky six-storey structure designed in 1927 by Joseph Urban and George P Post for William Randolph Hearst, who planned to build a tower on top of it later. The newspaper magnate had begun acquiring property in the area at the end of the 19th century, expecting the theatre district to grow into it. Though Carnegie Hall went up nearby in 1891, and Lincoln Center was built half a mile north in the 1960s, it was not until a few years ago that development in the area really took off when the dreary modern New York Coliseum on the southwest corner of Central Park was replaced by the Time-Warner Center, an enormous mixed-use complex designed by Skidmore, Owings & Merrill. The neighbourhood, however, still remains a happy mix of apartment towers, cultural facilities, restaurants and small shops.



The 46-storey Hearst Tower rises to 182 metres (597 feet) on top of an Art Deco base that was always intended for a tower, though surely the original builders did not envision a sleek stainless-steel and glass diagrid. The diagonal frames support the structure on the exterior economically with the help of a steel core and stainless-steel columns on the lower floors that are reinforced with concrete.

Hearst Tower

By the beginning of the 21st century, the site of Hearst's International Magazine Building had clearly become a good place to consolidate the 2,000 employees of Hearst publications such as *Cosmopolitan*, *O*, *Esquire*, *Harper's Bazaar* and *House Beautiful*, which were scattered around the city. The only problem was that the much-too-small existing building had been landmarked, and no one thought it made sense to build a new tower to match it, so the owners decided to hire the esteemed architects who had added on to the Reichstag and the British Museum. However, instead of a small glazed addition offering views into slightly expanded functioning spaces like those, this is a dramatic 42-storey tower rising out of a rather insignificant structure that has been gutted. (The overall height, at 182 metres (597 feet), is considered 46 storeys.)

The old cast-stone building with arched entrances, decorative statuary, tall thin freestanding columns and a grid of small rectangular windows meets the street with human scale and politely relates to its neighbours, though the image of an elegant, abstract glass-and-steel tower with completely different geometry, colouration and scale on top of a masonry base is a bit odd. Still, the reportedly \$500 million tower's presence on the skyline is magnificent. The triangular forms of the diagrid provide an interesting pattern, the angled stainless-steel columns give it a delicate sense of depth, and the corners with indented triangular wedges enhance its sculptural form and relate to the chamfered corners on the base building below.

The entrance on the short eastern (Eighth Avenue) end leads through a deep stone arch with voussoirs and coffers into an impressively tall and surprisingly shallow space filled with a maze of sleek stainless-steel security gates. These lead the initiated to a three-storey stepped glass wall with water flowing over it and three escalators running across it at a diagonal. Elaborate security apparatus is routine in New York today – and understandable in the first tower to go ahead after 11 September 2001. At least here the gates were designed in, and are upstaged by an 'icefall' fountain, but they take up most of the ground floor (the rest is filled with a long, narrow reception desk, retail space hidden from view, equipment for the icefall, structural beams, mechanical services and elevator bases).

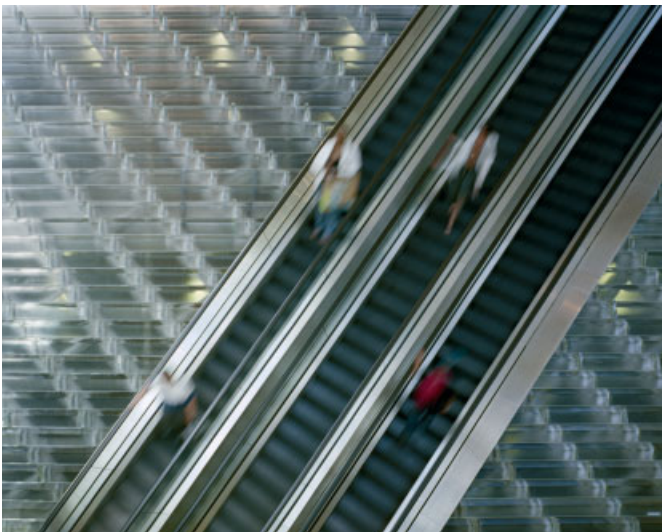
The building's light-filled, four-storey lobby (with a three-storey-high clerestory) is at the top of the escalator, where several gigantic, tilted stainless-steel columns penetrate the space, establishing a second scale and introducing diagonal geometry that is visible throughout. It is especially dramatic here, where a grid of human-sized windows from the old building pierces the outer walls. Instead of dwarfing the interiors, the occasional wide diagonals give them character,

Foster + Partners, Hearst Tower, New York, 2006

Each triangle of the diagrid is 16 metres (54 feet), or four storeys, tall. The beams that create them are profiled to create a three-dimensional surface and to deflect the sun, as does their linen-finish surface. Floor-to-floor glazing with high-performance, low-emission glass also realises energy savings.



The Hearst Tower's 21-metre (70-foot) tall lobby 'piazza' is almost three flights (but one long escalator ride) above the ground floor. It contains a luxurious cafeteria, various seating areas, an auditorium and exhibition spaces where employees of the company's numerous publications can meet or entertain clients. Despite the limestone floors and cement walls, it is so enormous that acoustics are not a problem – sounds just melt in the air.



The Eighth Avenue entrance leads to a three-storey 'icefall' fountain sculpture designed by artist James Carpenter and the architects. Water flowing over a series of glass steps cools the space in summer and warms it in winter. Above the icefall, artist Richard Long created a mural using river mud on the back of the elevators that are approached by three tall diagonal escalators.

create a relationship between the internal spaces and the facades, and tie the entire building (and company) together. The building is entirely owner-occupied except for the New York offices of the architects, Foster + Partners, which are there too.

The lobby cafeteria also unifies the Hearst corporation. Like rival Condé Nast's spectacular Frank Gehry-designed company cafeteria at its 4 Times Square building, this gigantic space, which is bathed in natural light, gives employees a place to mingle, offers good food at a modest price, and probably saves a fortune on expense accounts. Subdivided into intimate areas, it also provides places to snack alone when deadlines loom, and can be rearranged for corporate events, which can flow into the elegant lobby-level auditorium and exhibition spaces.

The lobby is also where employees board elevators to offices in the tower on the north, south and east sides. Though the building appears freestanding on the skyline, it is essentially three-sided because a tall apartment tower backs up against it on the west. The architects located the elevators here, leaving the bulk of the 1,900-square-metre (20,000-square-foot), 4-metre (13-foot) tall office floors for each magazine open to views and natural light.

The large steel beams in the lobby provide an opportunity to see the sun-deflecting linen finish on the panelled stainless-steel beams close up. Those on the lower floors, which are reinforced with concrete, allow the diagrid to support the tower with 20 per cent less steel than usual – 85 per cent of which is recycled. Despite the elegance and grandeur of the building, which was completed in autumn 2006, it is unusually energy-efficient. It was the first commercial building in New York to earn a gold LEED (Leadership Energy on Environmental Design) rating from the US Green Building Council. Using 26 per cent less energy than usual, it is filled with energy-saving features such as high-performance, low-emission glass, roll-down blinds and destination-based elevators. Even the icefall cools the lobby in summer and adds warming humidity in winter.

Every floor has conference rooms across from the elevator banks, and meeting spaces in the wedge-shaped corners. Discrete natural-wood furniture, glass partitions and rectangular open workstations, all designed by Foster + Partners with Genlser as executive architects, take a back seat to the personality of each publication, evident in the layouts on the walls. There is also a television station, a laboratory and test kitchen for *Good Housekeeping*, and a fitness centre. But the mixture of modern and traditional materials, an impressive corporate art collection, elegant detailing and a midtown location give the whole an East Coast Establishment feel.

IAC Building

Quite a different spirit pervades the canted-glass, ten-storey building downtown that Californian Frank Gehry designed for an Internet company founded by Hollywood mogul Barry Diller. It is more sandcastle than erector set, though it was intended to suggest the sails of a ship since the client and architect both love sailing and had hoped to build right on the water, though



Gehry Partners, IAC/InterActiveCorp Building, New York, 2007

From the West Side Highway, the shiny white glass arc-shaped walls of Gehry Partners' IAC Building create five 'sails' on the five lower floors, and three on the upper storeys above the terraces on the executive floor. Though high-rise condominiums are going up on the three other sides, this vantage point will remain open to views of the Hudson River.

zoning made this impossible. In shiny white glass, however, it looks much more like an iceberg – a matter of no small irony since the building overlooks piers that were built for the *Titanic*. Today they house the Chelsea Piers sports complex with its docks for pleasure boats, gyms, sports fields, ice-skating rinks, even driving ranges – all of which are a draw to potential IAC employees who also have plenty of goodies inside.

Also because of zoning, the scalloped building rises in two stages rather than one, creating an even more complex profile and wonderful terraces on the sixth (executive) floor overlooking the Hudson River. At this point the \$100 million IAC Building, completed in March 2007, rises above most of its raw industrial neighbours in the fast-changing hipster neighbourhood between the Chelsea art gallery district and the boutiques and nightclubs of the Meat Packing District to the south, though it will soon be surrounded by designer towers.

The entrance from the south, on 18th Street, leads into a big glass-walled lobby looking out on the raw brick wall of an

old industrial building and into what will soon be a new condominium and gallery by Shigeru Ban. An 11-storey apartment building by Annabelle Selldorf is going up next door, and behind it will be a glittering 23-storey tower of flats by Jean Nouvel currently under construction. A 30-storey glass-and-aluminium condo by Robert AM Stern will soon be built to the south. However, the river views on the west will not be obscured, and the whole world is reflected on the walls inside. In the entrance lobby, a 7.6-metre (25-foot) long, 3.4-metre (11-foot) tall rear projection screen shows activity on IAC websites around the globe. Visitors can click on an IAC brand, such as Ask.com, RealEstate.com, LendingTree, Match.com or Ticketmaster, and flickering lights will show activity taking place on the site anywhere in the world. Around the corner, on the West Side Highway facade, where 75,000 cars pass by every day, an ever changing selection of images inspired by IAC websites dance across a 36-metre (118-foot) long video wall in a sort of electronic ballet. The only



IAC's answer to the Hearst cafeteria is an informal 'galley' on the ninth floor filled with free food, places to hang out during the day, a large TV screen and views of the Hudson River. As at the tower uptown, the building's structural system provides much of the dynamics.



A surprisingly comfortable, long serpentine bench designed by Frank Gehry snakes through the big open lobby that contains the world's largest projection video screen. The ever-changing work of art dancing across it was inspired by IAC websites and programmed by Trollbäch + Company. Bruce Mau designed the building's subtle signage.



The most dramatic views of the IAC Building appear on the rear east side where the canted modules seem to be tumbling into one another. The contrast with the old, small-scale industrial buildings nearby is stark, but with the planned new apartment towers may be even starker.

furniture in the vast L-shaped space are a tall reception desk and a long, low, curvaceous bench made of small wooden slats, which was designed by Gehry himself.

The other IAC interiors, except for executive offices that Gehry Partners tailored to Barry Diller's very personal specifications, were designed by Studios Architecture, the San Francisco firm that has created spaces for Silicon Graphics and other Internet companies. Studios recently designed interiors for Bloomberg Media in a mixed-use building by Cesar Pelli next door to Bloomingdale's department store on the Upper East Side of Manhattan. The design team finished just in time to get to work on the much smaller IAC project (Bloomberg has 3,000 employees, IAC 400 at this point with space for 100 more). The \$100 million IAC Building has 12,077 square metres (130,000 square feet) and eight floors of usable office space with 2.9-metre (9.5-foot) ceilings on lower floors and 3.2-metre (10.5-foot) ones from the sixth floor up. There are two additional floors of services, including the top floor, which contains mechanicals.

The scalloped planes of the facade, which are subtle on the outside, have a dramatic effect on the interiors where they create a convoluted outer wall that gives open workstations additional privacy and character. Unlike at Hearst, where

private offices line the outer walls and workstations fill the interiors, at IAC the workstations face the prime Hudson views, and private offices face the back, levelling the playing field a little. Because all the interior walls are glass, there is transparency and natural light everywhere, and as many are brightly coloured and some are tilted, as are small tubular cast-in-place ferroconcrete interior columns, there is also a fun-filled sense of adventure. There are also open kitchenettes with free food on every floor, as well as a well-stacked 'galley' (from the ship metaphor) with tempting goodies on the ninth floor, where there is a big flatscreen TV and places for employees to hang out or work outside their offices. Here it is more rugged, private and lively than Hearst's more formal, grand 'piazza' lobby.

The *pièce de résistance*, though, is a conference room (Diller doesn't like the word boardroom) with a large interactive TV screen and individual computer screens that pull out at each seat, just skirting the leather desk tops that are also equipped with IAC legal pads and well-sharpened pencils. The idea is for participants to be able to see the images at the same scale as their 20,000 colleagues around the world and customers anywhere will be seeing them at the same time.

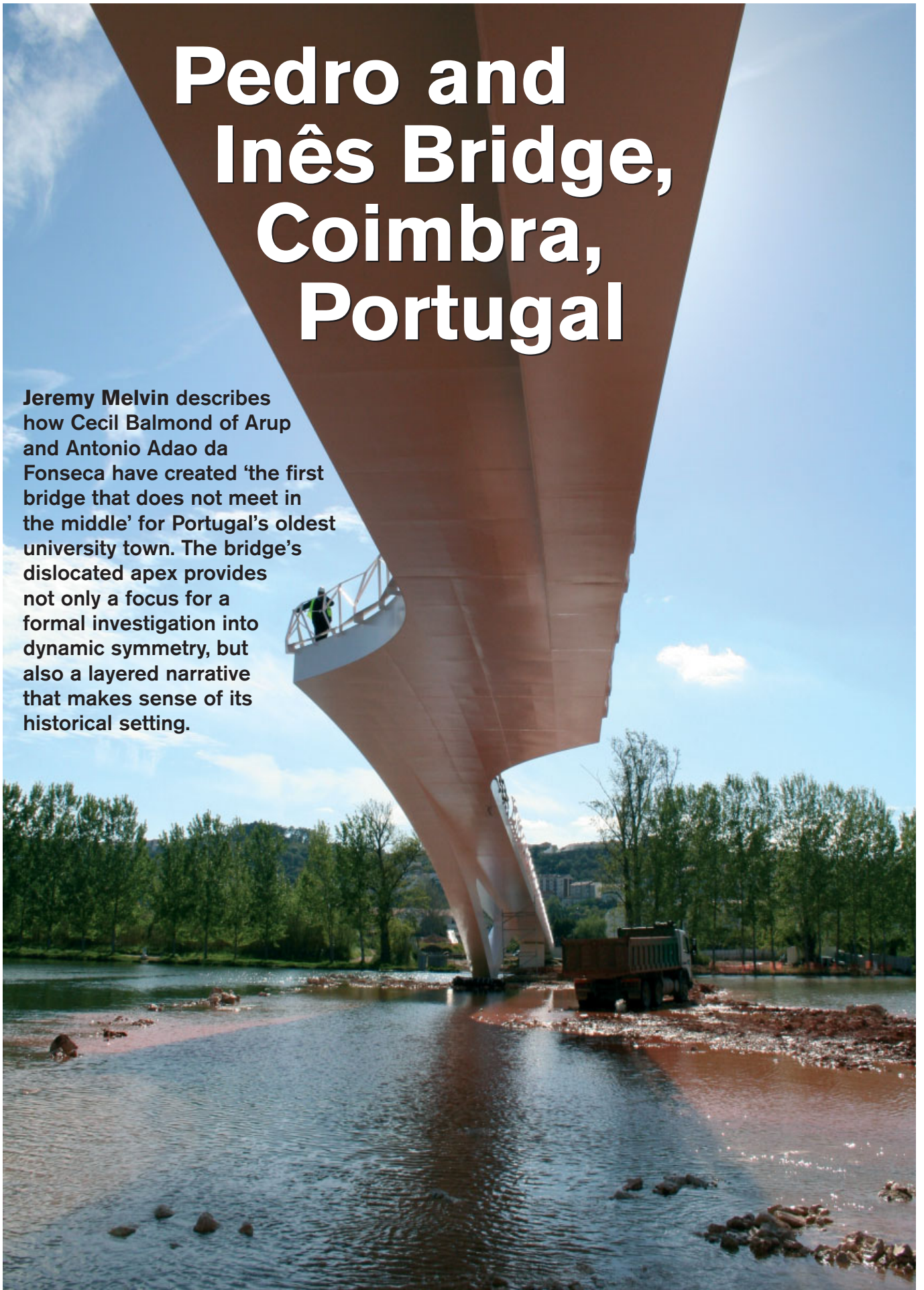
The whole building is filled with wonderful toys: video screens you can write on with magic markers and video walls you can manipulate to create ever-changing imagery. Green consciousness is part of the story here too. Employees use stairs instead of elevators most of the time, and the glass is fritted with sun-shading white dots that create an opaque surface towards the ceilings and floors but disperse at eye level. There is also an amazing collection of 1,400 sun-blocking MechoShades, specially designed for the 1,150 different curvatures in the curtain-wall. Some of the shades are twisted 30 degrees. The sandwich panels in the walls themselves were created on site by a money-saving technique called cold-warping. The three panes in each unit were bent as they were inserted into their extruded aluminium frames just before they were installed. Two were laminated together; the third is separated by an air space. All are held in place with silicone seals.

IAC, which has a very un-Manhattan 70-vehicle underground garage in the basement, is not well served by public transport. Employees, who used to work in various parts of a building near Hearst where several subway lines converge, now have to walk five blocks to a bus and even further to a subway. However, they are only four blocks north of the 1932 Port Authority Building where the 500 New York Googlers are ensconced in equally hip and airy, if decidedly less well-designed, quarters.

IAC has a personality all its own and very much of the moment. There is a fleeting, ephemeral quality suitable for the electronic wares being created inside. One thing is certain though, it is not likely to become the base for a soaring tower any time soon. **D+**

Pedro and Inês Bridge, Coimbra, Portugal

Jeremy Melvin describes how Cecil Balmond of Arup and Antonio Adao da Fonseca have created 'the first bridge that does not meet in the middle' for Portugal's oldest university town. The bridge's dislocated apex provides not only a focus for a formal investigation into dynamic symmetry, but also a layered narrative that makes sense of its historical setting.



Ever since the legendary École des Ponts et Chaussées was founded in 1747, its particular blend of militaristic Rationalism has gradually squeezed out all other measures of bridge design. Not many people still think bridges so offend the natural order of things that their builders and users should propitiate the divine beings who dwell in the streams and gorges they cross. Still fewer think of bridges as ways of telling stories, despite the potential for narrative their roles as crossings contain. Instead they are means of crossing barriers through the conceptually determined most efficient use of building materials, and their higher value, if any, lies in achieving ever more spectacular engineering feats that in turn demand more conceptual Rationalism.

The possibility of breaking away from this cycle appealed to Arup's deputy chairman Cecil Balmond in the opportunity to design a footbridge over the Mondego River in Coimbra, Portugal's oldest university town. Aided by Antonio Adao da Fonseca, one of Europe's leading bridge engineers and a frequent collaborator with his fellow Oportans Alvaro Siza and Eduardo Souto de Moura, Balmond set out to challenge conventional assumptions about bridges.

It is a 'crazy design', he confesses, 'the first bridge that does not meet in the middle.' Most bridge designers would make the centre of stiffness the same as the centre of symmetry, but Balmond made an initial sketch that had two subtle curves rising from each bank that just slipped past each other, as if they were young poets on the trajectory that Harold Bloom described in the *Anxiety of Influence*. Of course,

bridges are not poetry, and whatever their metaphorical meanings they do need some kind of central rapprochement; otherwise they would be mere viewing platforms. But this simple sketch alone showed that bridges might follow another sort of logic to the simple linear one so favoured by the strutting peacocks of les Ponts. Splitting symmetry and stiffness releases bridges from a straitjacket. They might lunge, lurch or feint; the forces might leap out of their containment and begin to mingle with the emotions of those who cross the bridge and stories associated with the place.

These characteristics lie at the core of Balmond's interests as a designer. His discipline is engineering, but his ambition is to create form, which he considers to be shape imbued with ideas. His principle is 'the negotiating eye in space', or using visual judgement as the starting point for a new visual language rooted in an understanding of form, mass and matter. Symmetry, he explains, occurs in nature 'as an embedded series of ratios', which makes it dynamic rather than static. He seeks to understand and reinterpret that dynamism, and use its many faces to create layered narratives. A bridge he is designing in Philadelphia takes this to a new dimension. 'It's like a novel in the way it develops,' he says, 'with its own denouement,' while at Coimbra there are 'scary moments' as pedestrians walk towards what appears to be a void.

Coimbra marks an important point in the way Balmond's ideas have evolved. He was looking for particular visual effects, to pick up on the quality of sunlight in southern



The centre of the bridge is a place to pause and reflect, not to pass as quickly as possible.



The switch of offsets of the arch means that the strong shadow can make one side of the structure appear almost invisible, and the thin deck soar as if in surface tension.

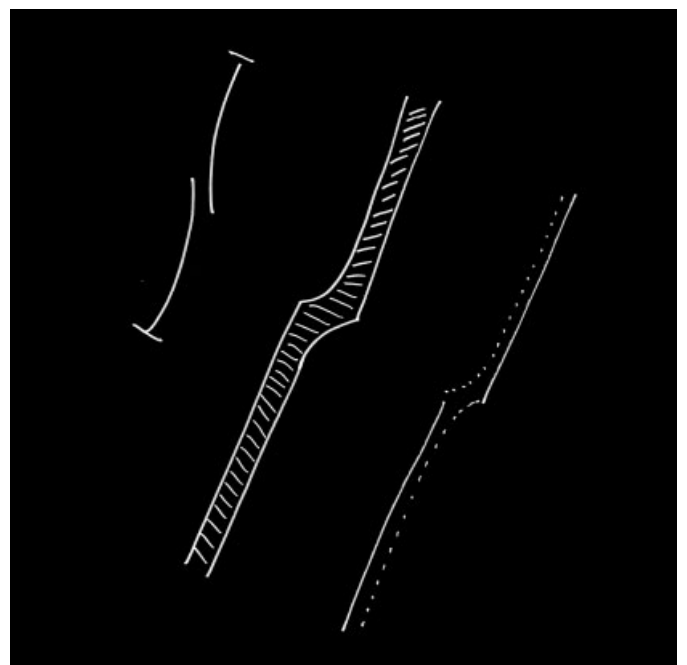
Cecil Balmond (Arup) and Antonio Adao da Fonseca, Pedro and Inês Bridge, Coimbra, Portugal, 2006
The underside picks up reflections that can be counterintuitive.



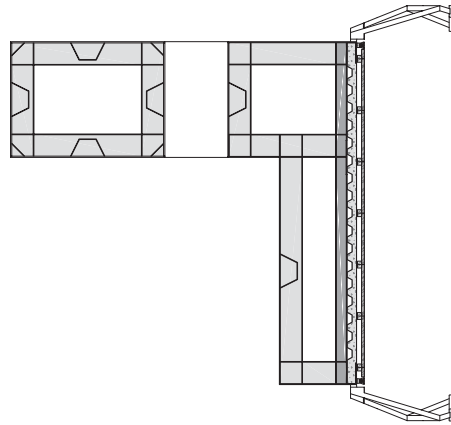
Above still water the bridge appears to be mirrored.

Europe and the difference between the nearly rural west bank and more urban east bank with the old town rising above it. Each side of the bridge seems to spring from its own bank; the dislocation at the apex prevents the domination of one direction over the other. Although each half is similar, their supporting arches are on opposite edges of the deck – for structural stability, a product of splitting symmetry and stiffness – but the visual effect is to make one half appear smooth while the other is thrown into shadow. From a distance one of the arches can almost disappear, while closer to, the surfaces of both bridge and water create a series of overlapping reflections.

Balmond's challenge to conventional wisdom comes not so much from questioning its logic, but out of a search for different visual and experiential effects. This becomes more apparent in the balustrade. Its patterns of coloured glass at first seem to belong to a very different order to the smoothly flowing forms of the main structure. They are faceted and arresting, following a folding geometry that repeats every 12 metres (39 feet). What they do, though, is interact with the movement of pedestrians over the bridge, throwing their different colours on to the deck, bathing walkers in changing lighting effects. The handrail itself follows a gentle zigzag,



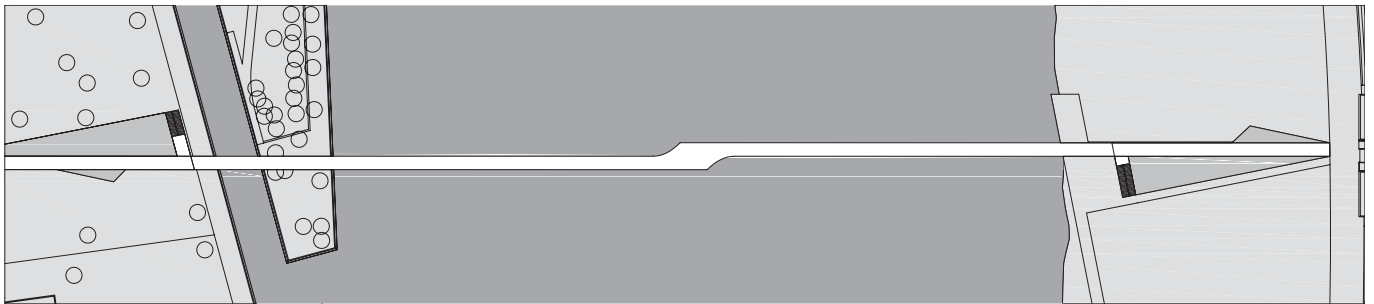
Balmond's sketch showing the evolution of the bridge form, from the initial sketch, to two straight decks which do not quite run into each other.



Section through the bridge showing the transference of the structure to one side and the deck cantilevering from it.



Different lighting conditions pick up different qualities in the design: at night, the structure seems to vanish and the illuminations of the coloured handrail dominate.



The deceptively simple plan belies the visual and conceptual complexity of the design and the consideration put into the two footings.

creating any number of momentarily private stopping points to rest and take in the view, as Balmond puts it: 'At each step something checks you.' These little hiatuses are preparation for the large one, the point in the bridge where the two decks just touch each other long enough to allow pedestrians to move from one line to the other, rather than step into oblivion. This is where a medieval bridge would have had a chapel for its patron saint; an earlier one a shrine for offerings to the deity of the river.

Balmond postulates a different metaphysical position. His decisions are always taken in the knowledge of convention, but rather than adhere to it, in a way that is again reminiscent of Harold Bloom, he veers away to explore different possibilities. Yet these still have to coalesce into their own contingent consistency. The integrity of the bridge, he says, 'has to do with the condition of not meeting'. This in turn overturns the tradition of two-and-a-half centuries where form, function and expressive language have become so intertwined that it dominates our understanding of what a bridge is. So at each step Balmond has had to take 'longer just to find the language to create and support that shift'.

Latent all the way through the bridge's gestation and design evolution was another thread that creates a psycho-

geographical metanarrative to the particular condition of the bridge. Coimbra was where the future Pedro I of Portugal fled with his paramour Inês de Castro to escape the disapproval of his father Alfonso IV because Inês was not of 'sang real'. Eventually Alfonso had Inês murdered. Pedro's response was to launch a rebellion. After Pedro became king he declared that he and Inês had married in secret and so their children were legitimate and in line to the throne. Inês' decaying corpse was exhumed so she could take her place as his queen, and nobles could pay homage to her. He had two tombs carved for himself and Inês, placed in such a way that on Judgement Day they would arise and face each other, presumably as a prelude to being together for eternity.

Balmond was not aware of this old tale when he designed the bridge, but on seeing his creation the mayor of Coimbra named it for the thwarted lovers, who could never quite connect in life. It is hard to imagine a box girder bridge evoking such stories, and even if this affinity is pure coincidence it does show how story-telling and form-making might come from related intellectual processes. **AD+**

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Gert Wingårdh

From his main office in Gothenburg, Sweden's second city, Gert Wingårdh has spawned a practice that has brought him national success. He has completed two embassy buildings for the Swedish foreign office in Washington DC and Berlin and two major museums. **Timothy Tore Hebb** describes the work of an architect whose designs are able to be both responsive to the natural environment and ingenious in their juxtapositions and contrasts.



Currently little known outside his native country, the Swedish architect Gert Wingårdh is now poised for international success. His sensibility has a particular poignancy at a time when the world is starting to recognise nature as a limited resource. Wingårdh's designs are often close to nature. He has a preference for using Nordic woods and stones in a way that does not require a lot of maintenance, and is frequently inspired by the sea and other natural forces. The atrium in his Swedish Embassy in Berlin, for instance, has an organic spiral staircase entirely made from birch that evokes the strong northern autumn winds.

Always sensitive to context, Wingårdh's approach is consciously urban and sophisticated when he designs for cities, despite his use of natural materials. His being so urban is rather surprising in this large, but sparsely populated country with only 9 million inhabitants, especially as the Swedish mentality is more influenced by its rural roots. This does not, though, mean that his buildings do not have their own identity. He is a master of the slight imbalance, the twist that makes great architecture surpass mere building design.

The revolutionising powers of technology, digital information systems and radical theorising are what inspire many 'starchitects' today. In line with this, Wingårdh's shapes are often angular and modern to begin with and then refreshingly twisted. They are avant-garde in the most Scandinavian sense. He believes that buildings are for people, so functionality is important. He is after all from the same country as IKEA and H&M, known the world over for their ability to bring affordable, well-designed items to the mass market.

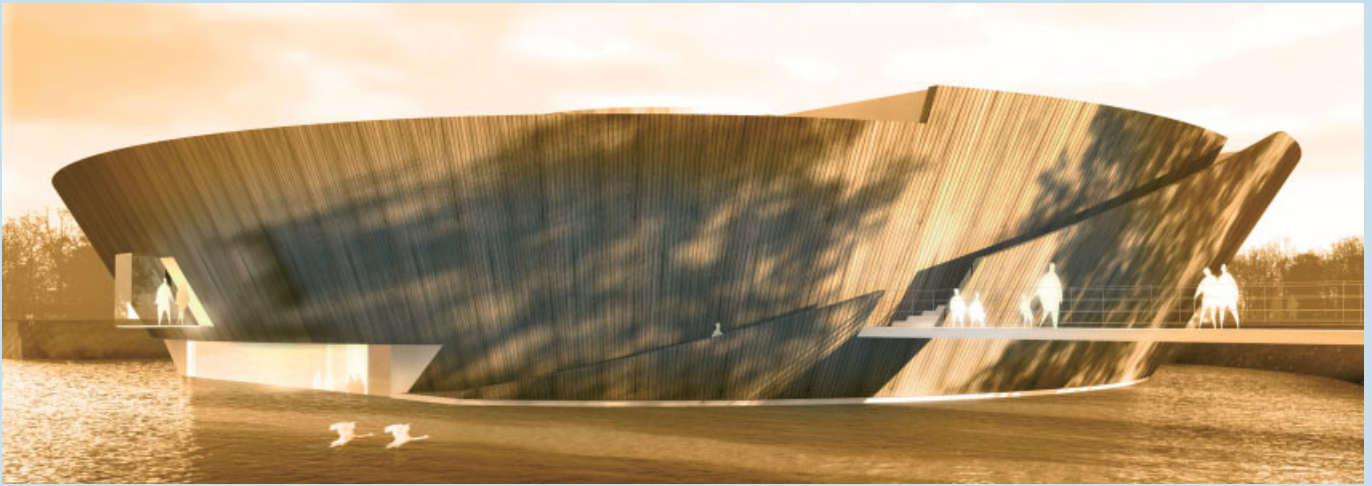
So who is Gert Wingårdh? He was born in the town of Skövde in southern Sweden in 1951. In 1975 he graduated from Chalmers University of Technology in Gothenburg, with a Masters of Architecture, setting up his own office two years later by himself. The way that he twists modern shapes might make one think that he is inspired by the Deconstructivists, but he owes more to the Scandinavian inheritance of Alvar Aalto and Sverre Fehn, whose simple concrete Nordic Pavilion at the Venice Biennale, built almost 50 years ago, has remained a strong touchstone. The interior of the pavilion is composed around trees, pushing through the roof's openings.

Wingårdh aspires to writing poetry with his spaces and skins, which means that he wants his buildings to make a lasting impression on us. He does not, however, define what kind. His vision always takes a site's particular context as its starting point; where, however, this is lacking real quality he imparts his spaces with a strong character or narrative thrust. In this respect, Wingårdh has two faces. When the natural context defines his work, the result might be that of the Citadell bath and pool in Landskrona, Sweden, which is at one with its natural location. Situated outdoors and close to the Öresund, the strait that separates Sweden from Denmark, it is constructed out of glass and glass ceramics in different blue shades, reflecting the ocean nearby and the sky. When the context is somewhere else, the House of Sweden in Washington DC can be the result. This building looks unlike anything else in the US capital, but would totally fit in Stockholm with its box-like shape. This building is a greeting from one culture to another.

The Müritzeum science and visitors' centre, in the city of Waren on Lake Müritz, a popular tourist destination in Mecklenburg, Germany, was Wingårdh's first commission from a foreign client (his other major buildings abroad, the House of Sweden in Washington DC and the Swedish Embassy in Berlin, were commissioned by his own country's foreign office). The Müritzeum typifies his approach. He explains the inspiration behind the building's form: 'I was driving in the countryside when I saw a barn that had been on fire. It looked like it had just happened, but when I asked I was told that it occurred 150 years ago. Wood turned into charcoal, which does

Citadell bath and pool, Landskrona, 2006

Different shades of blue transparent and opaque glass imitate how light interacts with water. Water runs down the building's glass facade creating a silky feeling that one cannot resist touching, and glimpses of the Öresund, the strait between Denmark and Sweden, can be seen between the cracks. This is a good example of how Gert Wingårdh lets the natural environment influence his designs.



Müritzzeum science and visitors' centre, Waren, Mecklenburg, Germany, 2007

Two cones, slightly shifted, make this building unique. Adding to the originality, parts of the surface have been charcoaled, but this is sensitively done – ribs of wood grain are easily touched and read. Situated next to a lake in former East Germany, the aim here was to create the impression of a 'floating' building.

not age.' Müritzzeum is thus partially constructed out of larch that has undergone a charcoaling process, in which a gas burner is used to make it resistant to rot. A film of coal protects the wood. The interior of the wood structure is not, though, charcoaled, but has a clear varnish finish. To accentuate the use of natural materials in the museum, Wingårdh set up a juxtaposition that typifies his propensity for contrasts. The round shapes of the building are dramatically cut off on one side to create an impressive entrance, optimising on the museum's river frontage. For further contrast, the exterior is stained in bright yellow with a clear coating over the yellow wood.

The traffic control tower of Arlanda Airport, just outside Stockholm, is an elegant, two-faced sculpture – one part being white and the other black. Its dual personality is due to the tower's two very different functions; the two parts of the tower, 7 metres (23 feet) and 5 metres (16 feet) respectively, together 12 metres (39 feet) in diameter, are needed to contain electrical cables, a staircase and two elevators – they overlap each other by a metre. One watchtower has a vision of 360 degrees, to see all planes taking off and landing; the other has a more finite view, since it only has to control planes taxiing on the ground. The tower hovers reassuringly over the resting aeroplanes. It is a daring juxtaposition that gives Sweden's busiest airport a distinct, cosmopolitan identity. Taking its inspiration from an old lighthouse, the tower has the same nuances as one finds in Sweden's archipelagos in winter. Wingårdh works with a deceptively simple palette.

He refers to himself as a chameleon. He will tell you that he does not have a typical style. One only has to look more closely at his work, though, to perceive a consistency of approach. It is not identifiable with a particular formal language, but rather with a certain dynamic that is exhilarating, forever revealing new qualities over time. This means that his work is never repetitive. His use of contrast, as we have seen, is a reoccurring tactic. Another trait is his

desire to create poetry through his designs. He tells a story with his buildings, and just like poems they are open to interpretation. Just like good poems they grow on you and reveal a deeper, personal meaning over time. A third characteristic of his work is his sensitive use of natural materials and original approach to natural context.

Wingårdh runs a practice with more than a hundred staff – divided between his original office in Gothenburg on the west coast of Sweden and a second office in Stockholm. An office in the capital is a prerequisite for a firm the size of Wingårdh's for the gaining of major commissions. Being somewhat of 'an outsider' may also account for his appetite – the degree of resolve and determination with which he approaches all of his work. Never clinging to a single solution, he enjoys coming up with alternatives when he encounters obstacles – architecture is for him a work in progress.

Many Swedish architects envy Wingårdh's success, particularly his ability to gain prestigious commissions such as embassies and cultural institutions. The exceptional power that building contractors have in Sweden means that architects often complain of being frustrated by the limitations imposed on them by builders. Architects perceive the building industry as having a negative impact on their creative freedom. It is a constraint that is commonly cited by architects to explain away Sweden's comparative lack of success on the architectural world stage. It is a situation that Wingårdh has managed to eclipse. He has achieved a pretty unique position nationally through his independence from building contractors and by developing a well-organised office with highly motivated staff. The practice organises its work into small project groups where everybody's opinion counts from inception onwards. This is one reason, according to Wingårdh, why the office can meet client challenges in a more creative way. A sense of ownership helps to achieve this culture. There is also, however, always a clear answerable



House of Sweden, Washington DC, 2006

The square shape of the 8,000-square-metre (86,111-square-foot) building is a result of the site's form. Wingårdh describes it as a 'typical Scandinavian box'. Inside are three functional sections: a public section including space for exhibitions and conferences, and a roof terrace; the embassy proper; and 19 apartments. The large public entrance on 30th Street, with two 5.6-metre (18.3-foot) wide sliding doors, welcomes the public to the building. Gatherings of different sorts are held on the entrance floor. The other two sections house office space for 45 employees of the Swedish Embassy and living quarters for employees of a few major Swedish companies. From the garage, the building can be read through a narrow atrium, looking all the way up to the seventh floor. Materials inside and out are wood and glass. The exterior's dual layer of glass means the imitation wood here changes colour, depending on the lighting where it stands on the Potomac River.



Universeum science discovery centre, Gothenburg, 2001

Constructed of wood, the centre is a twisted box that gives Gothenburg more of an urban identity as it seems to protect the city through its large windows. It was built to stimulate young interest in natural sciences. Different climate zones show how water, earth and animals interact; for instance, one can enter a rainforest at the top of the trees (25 metres/82 feet up) and pass tropical birds, wild monkeys and butterflies on the walk down, culminating in anacondas in the water. A double-glass layer is needed to maintain the temperature at 30°C (86°F) and the humidity level at 95 per cent. There is also a room that recreates northern Scandinavia, with mountains, melting snow and streams.





Arlanda Traffic Control Tower, Stockholm, 2001

Like two birds – one white, the other black – pushing close together for comfort, the tower's dual purpose is manifested in the architecture. The tower handles landings and take-offs on the one hand, and directs traffic on the ground on the other. 360° visibility in the latter is not as essential, which is why this part of the tower has a more limited all-round view.



leader in place within the group to respond to client needs. The size of the office also gives it a competitive advantage. As one of Sweden's largest architectural firms, it is able to handle major projects that smaller practices simply cannot take on. Creative freedom, however, also depends on the clients themselves. Municipalities and cultural institutions, his established client base tend – unlike construction companies – to have quality uppermost in their minds as the end users.

Wingårdh's position nationally in architecture was secured in 2003 when he won an invited competition, against Johan Celsing, Christer Malmström, Greger Dahlström and Lasse Vretblad, to design the House of Sweden in Washington DC. The multipurpose building, which was completed in 2006, houses not only the Swedish Embassy, but also apartments for embassy staff and some major Swedish companies, as well as function rooms for hospitality and meetings. Through its overall appearance and choice of materials, it engenders Swedish societal values such as openness, transparency and democracy. His office used the entire site for the structure, and the city got a unique building.

Wingårdh's success in a national context is often due to his abilities as a front man, because his persuasive talents are also rare among Swedish architects. His charm, however, is

also set to stand him in good stead with clients and the public abroad. When he wanted to use imitation wood for the exterior of the House of Sweden, he designed an exaggerated, imitation wood-vein pattern veneer, set in glass panels, to give the impression of wood from afar; wood being the building material most closely associated with his densely forested home country. Washington's planners did not, however, approve of this overexaggerated and fake material. This judgement was made when an official saw a piece of the imitation panelling from a distance of a mere 0.7 metres (2.3 feet) rather than the intended 7 metres (23 feet). Wingårdh recounts: 'He went ballistic.' Wingårdh got on a plane and met up with the whole Committee of Fine Arts, which has absolute power over new buildings in Washington's central area, which was about to decide on his choice of skin. He explained that trompe l'oeil paint effects have a long and strong architectural tradition in Sweden, and showed them slides of the exteriors of castles and churches painted to look like imitation stone and marble. 'We had to fake it, since genuine materials often were scarce, we were not as rich as the Italians,' he told them. 'And if you are going to fake it, why not do so a bit extra.' The committee's seven members only needed a few minutes to decide, as retold in Swedish



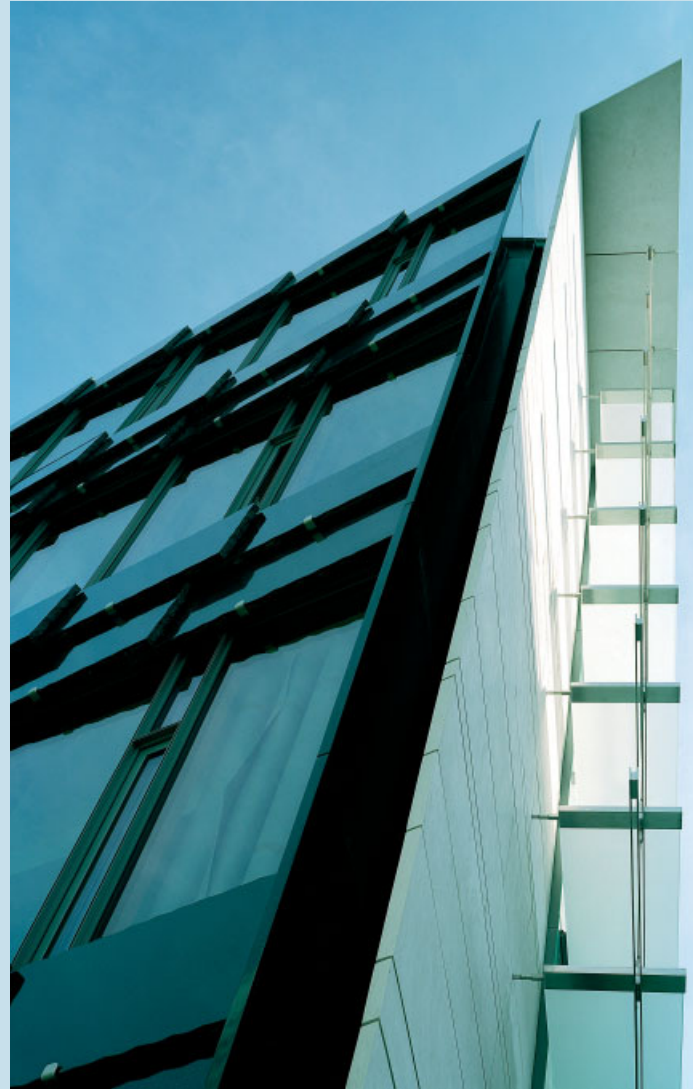
Swedish Embassy, Berlin, 1999

All of the Nordic embassies are closely grouped together in Berlin. Wingårdh's choice for Sweden was a building where the different facades use different materials. On the exterior, two walls contrast – one made up of rough, black basalt, the other of light, white limestone. The interior is all wood and the spiralling staircase gives the main hall an organic feel. One can also watch passers-by through the copper inside wall.

design magazine *Forum*: 'Mr Wingårdh. We would like to thank you for your efforts to address our concerns regarding this clearly prominent project. Our point of view is clear: your building is a gift to the city of Washington.' In this kind of situation, having a father who worked as an executive at a concrete factory probably helps.

The House of Sweden, which has that very modern purpose of branding a country, stands majestically on the waterfront in central Washington DC, not far from Georgetown University and the Watergate compound. The Universeum science discovery centre in Gothenburg, completed in 2001 and entirely made out of glass, wood and recycled paper, is likewise a good illustration of his work. Both the House of Sweden and the Universeum demonstrate how he uses design to transcend a building's mere function. He stresses the functions, but through his architecture he also endeavours to give his buildings an identity and life of their own, endowing them with iconic powers that tell us interesting and humorous stories if only we care to listen.

Wingårdh wants to take our breath away with his creations, while also keeping it simple. It is all part of the



Scandinavian, Lutheran heritage, where ornaments are considered extraneous – a form of showing off. He creates grand gestures with almost masochistic constraint; one can sense that he would always like to let his ideas roam free. What keeps him from doing so is the understanding that his talent thrives on self-control, adding just the right amount of unpredictability and tension. Functionality also means making the movement within the building humane, as he calls it. When residents and visitors can read the interior from the outside, as at the Universeum where there are large windows in the entrance, then he has succeeded. Inside, it is possible to look all the way to the bottom of the building while standing at the absolute top. The museum's 3-kilometre (1.9-mile) walk through some of the world's climate zones is all part of this humane experience, which is underlined and enriched by the wooden ecological design. Wooden elements of the building can easily be exchanged. Another good, but very different example of this is the Swedish Embassy in Berlin, where the interior is a wooden whirlwind of hard and

soft shapes. Standing in the main hall looking at the spiral staircase feels a bit like being comfortably trapped in the undercurrent of a big wave.

What is especially typical of Wingårdh's architecture is his choice of materials – limestone and granite are reoccurring favourites. He explains that they are characteristic of his native town of Skövde in western Sweden, inland from Gothenburg. He also finds these stones immensely sensual: 'Limestone ages rapidly and leaves traces of the past. At my office in Gothenburg, you can see signs from where people prefer to walk, and in the bathroom, there are prints from where people rest their hands.' One senses an overall yearning for the sea in his work, which may also date back to his childhood. One can imagine him dreaming about the sea as a boy, being so close to it, but not close enough to get there and easily experience it, and this is why it has such a presence in many of his designs. The same goes for the city, explaining the urban dimension of his work.

Using materials that do not need too much care is another trait, which must also influence his choices. Making buildings that last have a peculiar allure for him. Müritzeum, according to him, will not need maintenance for the next hundred years. The interior will need repainting of course, but the charcoaling process is so effective that the exterior will not require refurbishment, no matter how much it rains. The fundament

is concrete and resilient in its own way. The same goes for the Universeum, where a roof protects the wood. It is as close to being a totally ecological building as it is probably possible to get today. Naturally ventilated, its energy requirements are planned to be second to none, and water is recycled within the building. When solar cells are economically feasible, they will provide the building with electricity.

As further horror scenarios emerge of what might happen to us all if not enough is done to avoid impending environmental disasters, one can only hope that more notice will be taken internationally of Gert Wingårdh and his well-tuned sensibility. In the interim, he can find comfort in the fact that Sverre Fehn was 72 years old when he received the Pritzker Prize. **D+**

Timothy Tore Hebb writes about architecture and urban planning for Swedish newspapers and magazines. He recently interviewed Zaha Hadid's Patrik Schumacher for *Arkitektur* about the office's work and theory. He also writes about Stockholm's future urban challenges, such as how the city can grow rapidly while at the same time providing good living conditions and minimising segregation.

Text © 2007 John Wiley & Sons Ltd. Images: pp 122-123, 125(b), 126(b), 127, 128 © Wingårdh Arkitektkontor AB, photos Åke E son Lindman; p 124 © Wingårdh Arkitektkontor AB; 125(r), 129 © Wingårdh Arkitektkontor AB, photos Michael Perlmutter; p 125(t) Wingårdh Arkitektkontor AB, photo Patrik Gunnar Helin; p 126(t&br) © Wingårdh Arkitektkontor AB, photos Ulf Celander

Resumé

Gert Wingårdh

1977

Wingårdh Arkitektkontor founded in Gothenburg

1986

Öljared Country Club, Lerum (Kasper Salin Award)

1989

AstraZeneca R&D site, Mölndal (Kasper Salin Award)

1993

Ale Secondary High School, Nödinge

1996

Swedish Embassy, Berlin
Arlanda traffic control tower, Arlanda Airport, Sigtuna

1997

Auditorium and student union at Chalmers University of Technology, Gothenburg (Kasper Salin Award)

1998

Universeum science discovery centre, Gothenburg

1999

Kajplats 01 housing, Malmö
Aranäs school and theatre, Kungsbacka

2001

Konstfack School of Applied Arts, Stockholm
Hammarby Gärd housing, Stockholm
'New Trends of Architecture in Europe and Japan' event, Tokyo, represented with Universeum science discovery centre

2002

Norra Bantorget 'Sign' hotel, Stockholm, due for completion 2008

2003

Villa Ann, Gothenburg
House of Sweden, Washington DC
Breath of Life opera, Östersund
Vällingby fashion retail, Vällingby, due for completion 2008

2004

Kallis bath and spa, Helsingborg
Müritzeum science and visitors' centre, Waren, Mecklenburg, Germany

2005

Citadell bath and pool, Landskrona
Glaskasten sculpture museum, Marl, Germany
Arabiastranden housing, Helsinki, due for

completion 2009

Volvo Next Face retail design, global

2006

Hyllie commercial centre, Malmö, due for completion 2010
Exhibited at 'The Eighth Belgrade Triennial of World Architecture'
Exhibited at 'A World in One City: A Sketch for London', London Architecture Biennial

2007

Spira concert hall and theatre, Jönköping, due for completion 2009



Mythic Collaboration

Controversially, Neil Spiller risks the fallout and confronts the trend for multidisciplinary architectural collaborations head-on. He explains why he believes corporate team management can only lead to the mundane and the mediocre, denying individuality, creativity and vision.

The received wisdom from software producers, architects registration boards and shiny socialist egalitarian journo-hacks is that nothing of any merit, architecturally speaking, can be done without the collaboration of a massive team of architects and consultants. Corporate team management is being valued far above individual talent and personal vision. The result is often mundane, lacking in any contribution to human culture and riddled with mediocrity, and the press willingly subscribe to the lauding of such puerile offerings as acts of great architecture. Ironically, construction industry computing seems to add to this mediocrity rather than liberating us from it.

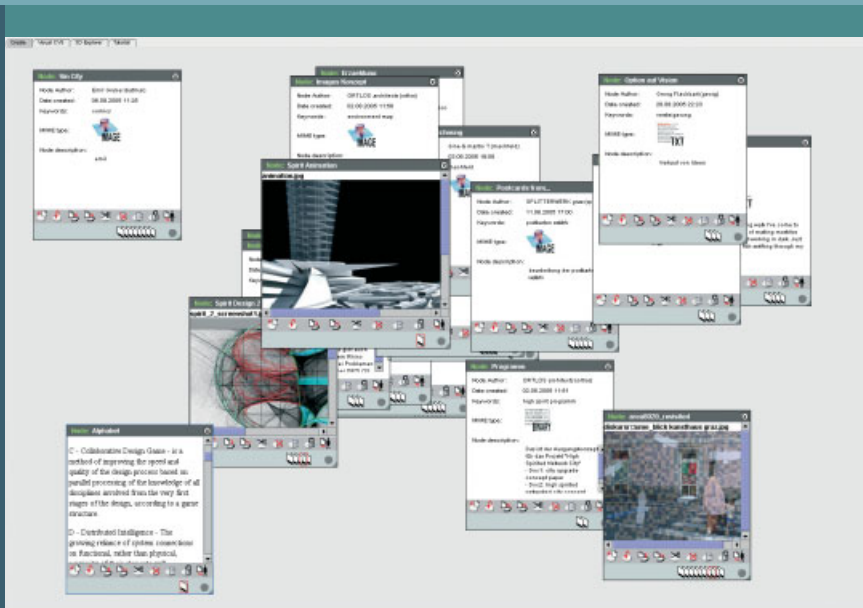
While the main design software vendors have focused on trying to achieve the sort of seamless integration of design, construction, management and maintenance they have only really paid lip service to what happens at the real front end – the genesis of ideas. My friends ORTLOS, based in Graz in Austria, are currently grappling with the process of collaborative design that focuses on the first part of the process – how ideas arrive, are negotiated and concretised – and making these info-spaces viewable, comprehensibly

transparent and networked. The firm describes its newly developed software, ANDI (A New Digital Instrument), thus:

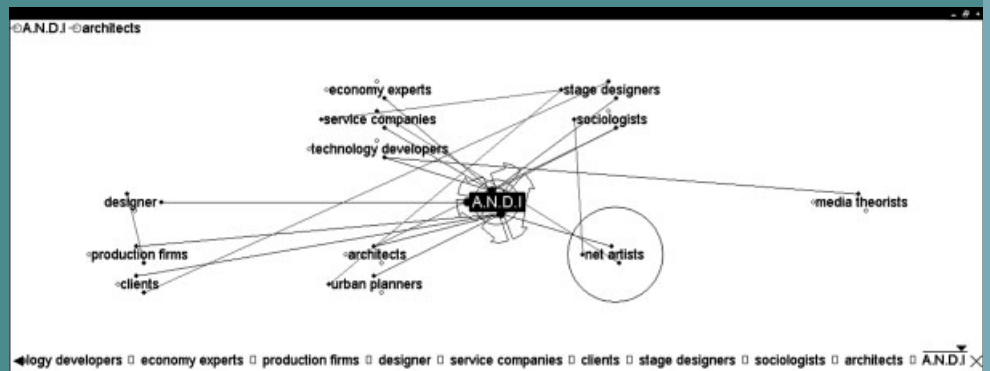
This working method will make possible a new generation of projects. It will be an operating system based on the Internet which works interdisciplinary and internationally during each architectural or art project to solve complex urban, sociological and architectural problems, to increase the creative dimension of projects, and to improve communication during the process of conception, designing, planning, production and realization of projects.

ANDI has two basic features. On the one hand it is a database-driven collaborative environment and on the other hand it will enable the development of future software and tools for networked creative collaboration.

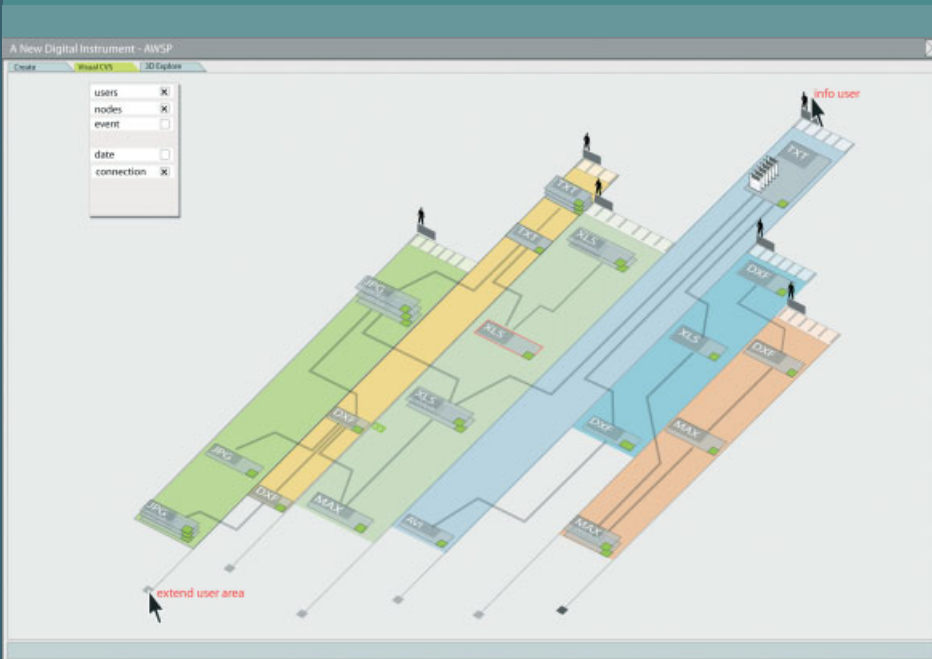
The changes of architectural production are linked to changes in thinking about architecture and architectural practice. A work will no longer be an expression of a single individual; it is an expression of the collective. More – it is an expression of a platform – one of a network of influences which are continuously being reorganized by all the participants involved.



ANDI software, developed by ORTLOS, based in Graz, Austria, creates virtual collaborative terrains and organisational dynamic hot buttons.



Map of the types and interactions of AND.I's actor ecology.



Information and interactions become digital geographies and archaeologies.

They very kindly asked me to be one of their networked collaborators. I'm afraid I had to decline, not because I don't think their software and its future progeny was not a useful and valid contribution to the evolution of digital design collaboration models, but because of a combination of two things. Firstly, I don't buy the idea of interoperability, capitalism always gets in the way, I have enough trouble getting email when abroad, or getting broadband installed (being a Mac user), or getting a printer driver to work (information, even of the most mundane sort is power). Secondly, I like to develop my esoteric things on my own, their logics do not subscribe to the pervading capitalist imperative, I don't like sharing my special toys either, and not

so deep down I still believe in the romantic notion of the lone architectural horseman.

The good people at ORTLOS, who I admire for their work and ambitions, would probably say I am wrong, but I have no need of other people's design trajectories and I hope they should have no need of mine – that's what makes us all potentially special designers. Δ+

Neil Spiller is Professor of Architecture and Digital Theory and Vice Dean at the Bartlett University College London.

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Brigitta Zics

Working on Interactive Potential

Valentina Croci kicks off a new series on interactive technologies with an investigation of the integrated, interdisciplinary research of the new media artist Brigitta Zics. Zics' projects throw light on how conventional architecture might learn from the interactive, placing a greater understanding on the sensory and the user's perceptual experience of a particular space.



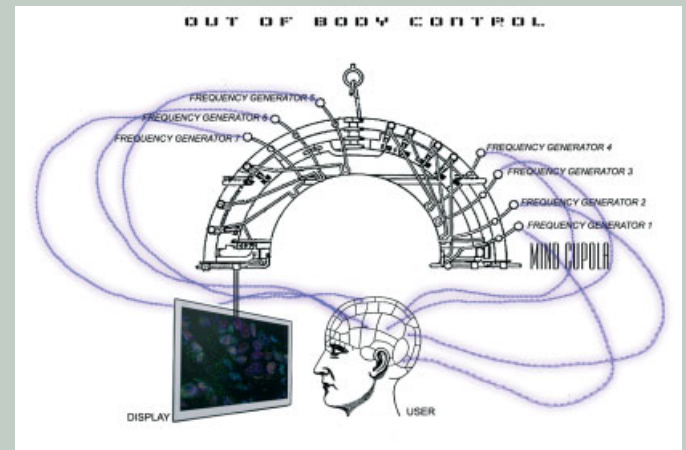
The work of Brigitta Zics can be classified as interactive digital design: it focuses on the design of interfaces and the real-time visualisation of interaction between the user and new digital technologies. New media are important for investigating the extent and the way in which 'immersive' technological environments can influence the subject's perception of the characteristics of space. Zics' research is relevant to understanding the behaviour of people in interactive space, and particularly the way in which people use their senses and move within the environment.

Her two projects – Mirror_SPACE and Out of Body Control – are defined by Zics as integrated, interdisciplinary artistic research. As a consequence, it is not the finished object that is the work of art per se, but its interactive potential and particularly its cognitive dynamic with the person. The art itself is the representation of the user. Through an exploration of the senses, digital technologies enable artists to open up the boundaries of people's perceptions.

Zics was born in Hungary and trained at the Academy of Media Arts in Cologne; she is currently completing her doctorate studies with the Art Department at the University of Wales Newport with Michael Corris (Head of Art and Photography). Her research project, entitled Out of Body Control, is also under the tutelage of Phil Culverhouse from the Centre for Interactive Intelligent Systems (SOCCE, University of Plymouth) and Robert Pepperell, Head of Fine Arts at the Cardiff School of Art and Design (University of Wales Institute Cardiff). Out of Body Control, intimately tied to the research developed for Mirror_SPACE,¹ is used to experiment with virtual reality instruments and facial-scanning programs to create real-time images that represent the psychophysical condition of the user at a given moment. In fact, for Mirror_SPACE the scanned facial data were interpolated together with other numeric values taken from the Internet – for example, climatic and temperature values of the geographical area in which the installation was located, the hour of the day or local traffic conditions – offering data related to external events, which are considered to have an influence on the physical and emotional conditions of the user. This information from the two different sources is added to that provided by a three-dimensional tracking system based on the Cartesian axes, which captures the position of the subject in space. Finally, the input data is elaborated using software that translates the information into images – the 'mirror objects'.

The images are a sort of metaphorical mirror of the user's physical and emotional state, and thus continually different in their form and movement. For the 'mirror objects' Zics chose to use forms of viruses or nanostructures, the result of the influence, during the period of generating the output, of the

research of Ernst Haeckel, the 19th-century German biologist who, as Zics explains, 'made beautiful drawings using a microscope. This is a good example of how technology transformed the way we see, and made visible what before was unknown to the human eye. In Mirror_SPACE these macrostructures were mixed with other technological representations of form – computer-generated networked structures. Here I was studying various scientific visualisations focused on complex activity that created different patterns representing the relationship between time and space. One such visualisation was that of 3-D hyperbolic space, created by Tamara Munzer in 1998.'



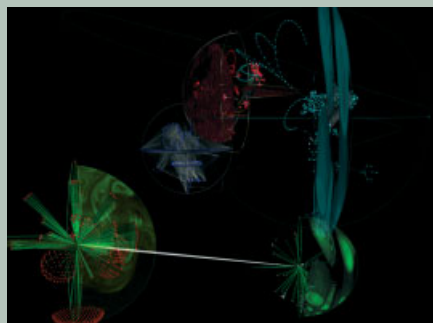
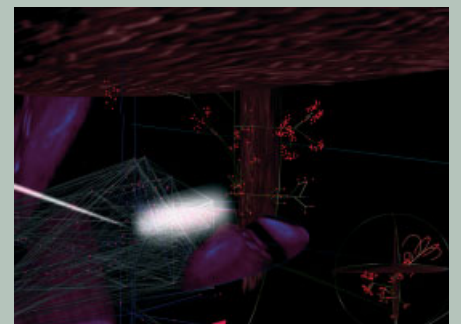
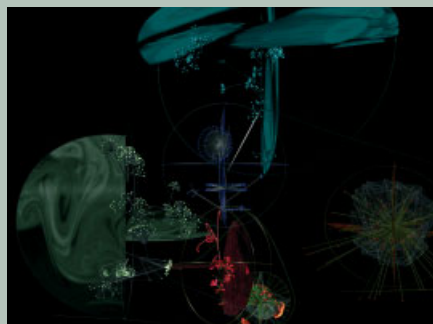
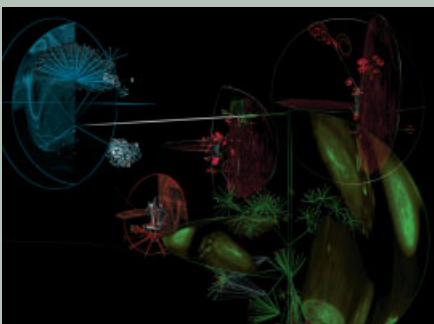
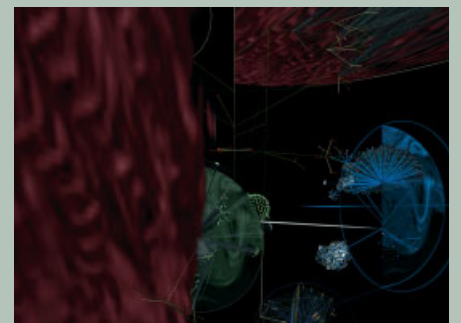
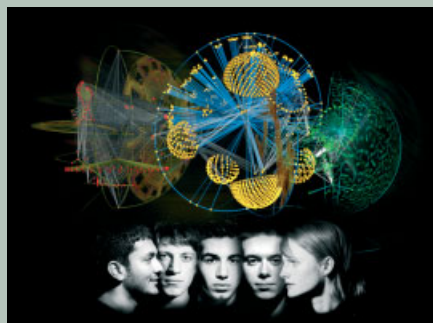
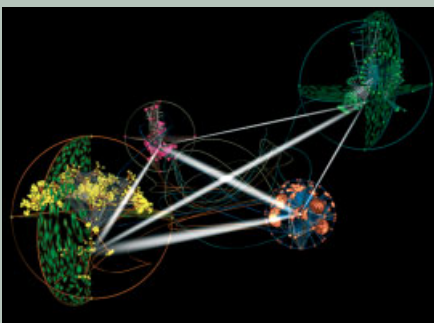
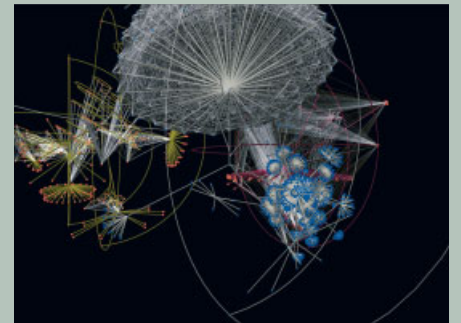
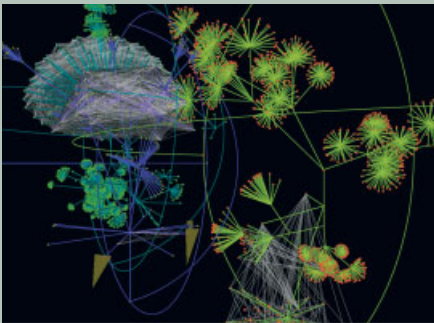
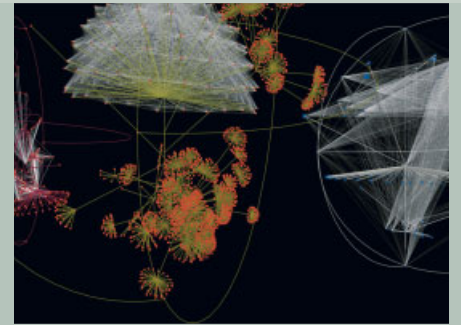
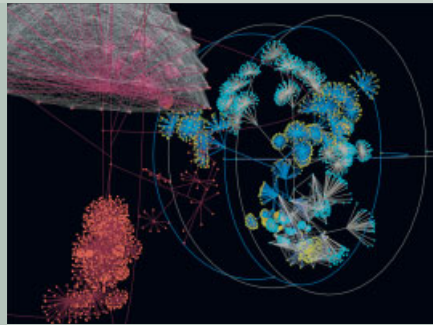
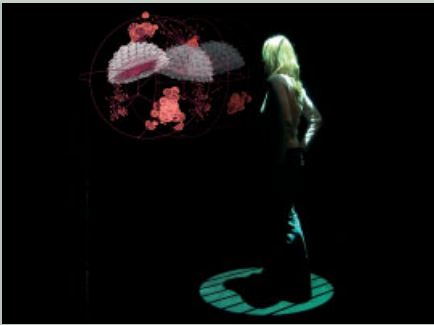
Brigitta Zics, Out of Body Control, ongoing

Here the subject is static and makes only the most minimal facial movements. The 'Mind Cupola', placed above the individual, projects mechanical and audiovisual stimuli. The latter are the result of a closed information system based on the user's reactions to sensory stimuli, which are then re-elaborated and reprojected by the cupola. The objective of the project is that of investigating the alterations of consciousness in the subject within an isolated environment and of representing, outside of the body, the emotional and sensory feedback of the individual, allowing for a different understanding of oneself.

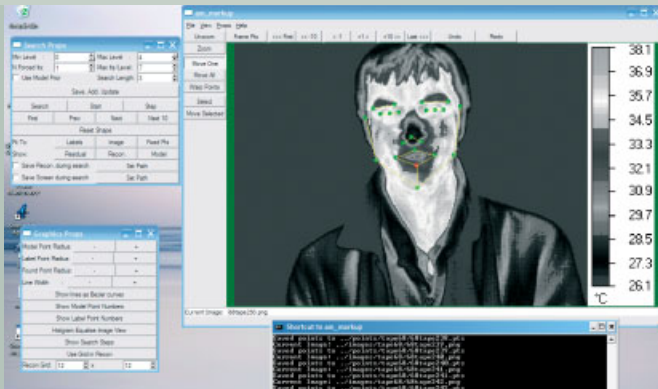
Out of Body Control also investigates the representation of the condition of the user in real time. The project is a sort of emotional mirror of the subject, making it possible to recognise personal patterns of behaviour. The subject, static in space, is placed below the 'Mind Cupola', which projects mechanical and audiovisual stimuli, while a camera located in front of the subject scans facial movements using a system of

Brigitta Zics, Mirror_SPACE, Siggraph, Los Angeles, 2005

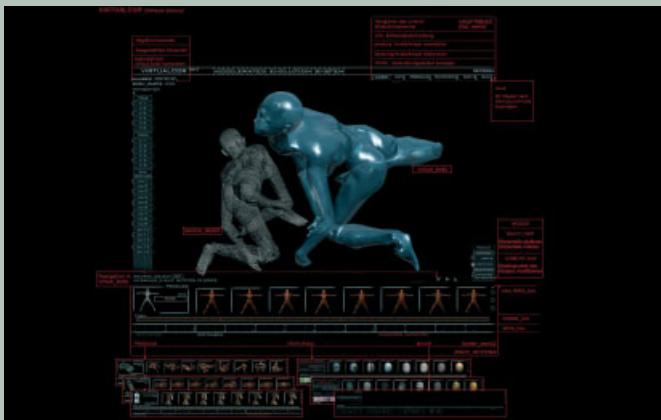
The user interacts in real time with the digital images resulting from the union of facial-scanning data, the positioning of the movement of the body in space, and other variables related to geographical location, taken from the Internet. The data-gathering instruments do not interfere with the movement of the user, and also do not distract attention from the dynamic of interaction.



The 'mirror objects' are a sort of representation of the user's physical and emotional during a given movement. The form is suggested by the designs of structures analysed under the microscope of the 19th-century biologist Ernst Haeckel, and by macrostructures generated by digital programs, for example those by Tamara Munzner.



The image represents a phase of the elaboration of facial data generated by the Out of Body Control software. The project interface is still being developed. The reactions of the user to stimuli generated by the 'Mind Cupola' are recorded by a video camera that captures information such as three-dimensional scans of facial physiognomy, variations of temperature or the coordinates of movement.



The use of virtual reality software, based on three-dimensional scanning programs of bodily movement, allows for a correspondence between matrixes of form, textures and colours and parts of the body in precise spatial positions. The VR software interpolates the different matrixes to create 'mirror objects'.

spatial coordinates. In this case the person does not actively interact with the outcome of the machine, and movement is relegated to facial mimicry. The design of the cupola, which does not come into direct contact with the user, is designed to interfere as little as possible with the movement of the subject's head. 'The aim is to generate a meditative condition similar to that when the user is deep inside his or her own thought,' explains Zics, 'during which one is unaware of the actions of the body – the active interaction – and sensorial stimuli are experienced as out of body.' Thus the machine induces sensorial stimuli that provoke reactions in the subject, which are then processed by the machine and retranslated into new audiovisual stimuli – a form of looped interaction. As a result, it is the physiognomic attributes and the facial mimicry that give form to the answer provided by the machine: 'It is a closed feedback loop,' says Zics, 'as the new computer-generated behavioural prototypes [images] affect what the user sees, and therefore his or her consequent reaction.'

It should be noted that the pragmatic and experimental approach used by Zics to create Mirror_SPACE – Out of Body Control is still in the phase of defining the interface – through the direct experience of the person thus includes the problematic issues related to interaction, the aesthetics of visualisation and the 'legibility' of the artistic aims inherent to the project.

The definition of the dynamic of interaction between the user, technologies and the interface through which interaction takes place are fundamental to the achievement of Zics' artistic intentions: the 'transparent act', an undisturbed flow of communication with the machine that creates a new cognitive horizon in the individual. Nonetheless, the outcome is strongly conditioned by technological development – for example, movement-tracking software presents problems in the event of multi-user interaction or complex movements made by the person. It is thus the limits of technology that 'bridle' the user's possibilities for action. However, there are two important aspects to Zics' work that define an important field of research: primarily the use of the body and senses as the starting point, together with the objective of defining interactive technologies, and secondly the search for an 'expanded experience' of the subject in space. Both Mirror_SPACE and Out of Body Control work on the representation of the person's senses: giving form to sensorial feedback offered by the user, they make it possible to perceive his or her physical and emotional state and, as a result, influence the individual's cognition and reactions.

This type of research into the interaction between the subject and new digital technologies also delineates a possible development of the design of built space: placing the accent on the sensorial dimension and the experience of the user in space means considering not only the visual dimension, a perception that is generally privileged in architectural design, but also includes the introduction of the other senses in the understanding of the individual in space – giving relevance to the effects of the different sensory stimulations induced by the environment on the senses of the person. Thus new forms of sensorial interaction through digital technologies can give form to a space so that it is a 'living atmosphere' and a time-based experience, expressed by the existence of the subject in the space. Δ +

Valentina Croci is a freelance journalist of industrial design and architecture. She graduated from Venice University of Architecture (IUAV), and attained an MSC in architectural history from the Bartlett School of Architecture, London. She is currently a PhD student in Product and Communication Design at the IUAV.

Note

1. Mirror_SPACE, developed in 2004, was presented in Cologne (2004), and at the 'Space Art' exhibition in Budapest and Siggraph, Los Angeles in 2005. It was nominated for the 2004 International/Media/Art/Award (ZKM, Karlsruhe) and later selected for the 2006 Digital Sparks Award and awarded the Europrix Top Talent Award in Vienna in 2006. See www.zics.net

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Part 1: Some Basic Premises for Green Design

Sustainable or green design is notoriously ill-defined. As a comparatively young discipline it is up for grabs and up for interpretation. In a new three-part series, Ken Yeang, who has been designing green architecture for more than three decades, provides some much-needed parameters.

Al Gore's now well-known PowerPoint presentation about climate change entitled 'An Inconvenient Truth' has catapulted concerns about the direct impact of the human environment on climate change into the public eye and on to the agenda of the world's decision-makers. Many political leaders are now recognising that saving our environment is the most important issue humankind must now address, feeding into our fears that this millennium may be our last. Evidence of this is ubiquitous worldwide: the conspicuously diminished polar icecaps, the loss of the snows of Mount Kilimanjaro in Africa, the rise in sea levels, and a whole host of other environmental issues.

For the designer, the question is: How do we design for a sustainable future? This question also concerns industry. Companies are now anxiously seeking to understand the environmental consequences of their business, envisioning what their business might be if it were sustainable, and looking for ways of realising this vision with ecologically benign strategies, new business models, production systems, materials and processes. Examples include property developers such as Quintain plc (which recently convened a conference on green design and is looking into green materials manufacturing), and Stanhope plc (which is leading the US Green Building Council's LEED Certification process in the UK), Japanese car manufacturers such as Toyota and Honda with their increasingly efficient hybrid green cars, and BMW, which is now manufacturing cars with recyclable components.

If we have an ecologically responsive built environment, it will likely change the way we work and our current ecologically profligate way of life. Following are the basic premises addressing this idea:

1. The ecological approach to our businesses and design must ultimately be about environmental integration.

If we can integrate our business processes and design, and everything we do or make in our built environment (which by definition consists of our buildings, facilities, infrastructure, products, refrigerators, toys, and so on)

with the natural environment in a seamless and benign way, environmental problems will be eradicated. Simply stated, ecodesign is designing for bio-integration, which can only be achieved if the physical, systemic and temporal aspects of such design are met. Meeting all of these requirements is, of course, easier said than done, but herein lies the challenge.

2. Nature must be our starting point.

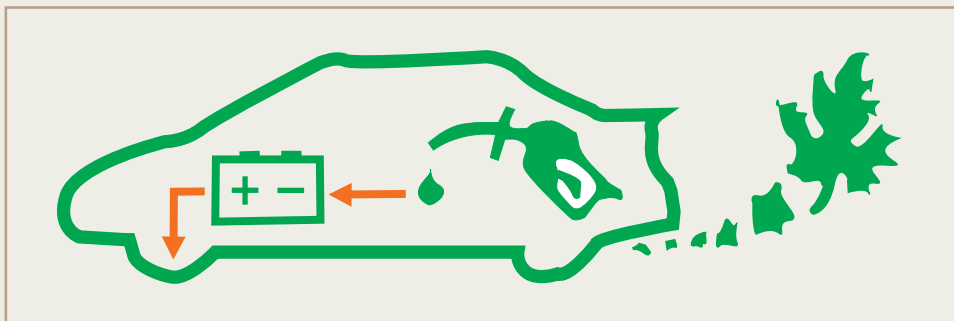
Nature without humans exists in stasis. Can our businesses and our built environment imitate the processes, structure and functions of nature, particularly of its ecosystems? For instance, ecosystems have no waste; everything is internally recycled. Thus by imitating this our built environment will produce no waste. All emissions and products are continuously reused, recycled within and eventually reintegrated with the natural environment, in tandem with efficient uses of energy and material resources. Designing to imitate ecosystems is called ecomimesis, and is the fundamental premise for ecodesign. Our built environment must imitate ecosystems in all respects.

3. Nature regards humans as one of its many species, and humanity must learn to do the same.

What differentiates humans from other of nature's species is their capability to force large-scale devastating changes on the environment. Such changes are often the consequences of manufacturing, construction and other activities such as recreation and transportation.

4. We must start to look at buildings for what they are – shelter.

Our built forms are essentially enclosures erected to protect us from the inclement external weather, enabling some activity (whether residential, office, manufacturing, warehousing, and so on) to take place. Ecologically a building is just a high concentration of materials on a particular location (often using nonrenewable energy resources) that are extracted and manufactured from some place distant in the biosphere, transported to that location



Hybrid cars represent the transition towards the eventual elimination of petroleum-fuelled vehicles, but this is a piecemeal solution to the much larger issue of transportation. We need to rethink the entire question of how to move people and materials around locally, regionally and across countries.

and fabricated into a built form or an infrastructure (such as roads and drains), whose subsequent operations bear further environmental consequences and whose eventual afterlife must be accommodated.

5. We must avoid gadgetry and sustainable ratings for the sake of accruing Brownie points

There is also much misconception about what constitutes ecological design. We must not be misled by the popular perception that if we assemble enough eco-gadgetry – solar collectors, photovoltaics, biological recycling systems, building automation systems and double-skin facades – in one single building we will instantaneously create an ecological architecture. Another misconception is that if our building achieves a high ‘green’ rating, then all is well.

Worse, a self-complacency sets in whereupon nothing further is done to improve environmental degradation.

In a nutshell: ecodesign is designing the built environment as a system within the natural environment. The system’s existence has ecological consequences, and its different sets of interactions – for example its inputs and outputs – over its entire life cycle must be benignly integrated with the natural environment. **Δ+**

Kenneth Yeang is a director of Llewelyn Davies Yeang in London and TR Hamzah Yeang in Kuala Lumpur, Malaysia. He is the author of many articles and books on ecodesign, including *Ecodesign: A Manual for Ecological Design* (Wiley-Academy, 2006).

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MCLEAN'S NUGGETS

Blow Up

For more than 40 years, Italian-born architect Dante N Bini has dedicated his professional life to the development of what he calls 'automated construction technologies'.¹ In 1965, in Bologna, Italy, he successfully constructed a 12-metre (39-foot) diameter, 6-metre (19.6-foot) high hemispherical concrete shell structure in three hours using the unique pneumatic formwork of a giant balloon. This first prototype did, however, have some teething problems, particularly the uneven distribution of the wet concrete caused by an unpredictable (asymmetric) inflation. Improvements were made and in 1967 at Columbia University, New York, Bini demonstrated in two hours the construction of another large-scale Binishell. For this first US prototype he used a complex web of helical 'springs' with steel reinforcement bars threaded through their middle, which allowed for a geometrically controlled inflation and thus uniform concrete distribution of the shell structure. For this demonstration and subsequent Binishell structures, an additional external membrane was used to allow for the vibration and compaction of the concrete, post inflation. More than 1,500 Binishells were constructed throughout the world between 1970 and 1990 with diameters of between 12 and 36 metres (39 and 118 feet), and with a varying elliptical section. Less interested in the form-finding of Swiss engineer Heinz Isler's elegant European shells, Bini was concerned with how the construction process

itself could evolve and how a lightweight and low-cost resource such as air could be utilised in the construction industry. Concrete shell structures like Isler's and Felix Candela's are structurally efficient and enclose huge volumes with a small amount of material, but the fabrication of formwork required a large on-site semi-skilled workforce. Bini's inflatable formwork, or Pneumoform, eradicates the need for a large site team and allows for high-speed construction. Bini continued to evolve this technology, creating the Minishell system for low-cost housing, used as tourist villages at a number of sites in Italy and Australia. The 1980s saw Bini move away from monolithic construction and he began to utilise the Pneumoform technology for the erection of demountable space-frame structures – assembled on the ground and hoisted, locked into place and climate sealed through an airlifted polyester membrane. Profiled in the *San Francisco Chronicle* (20 February 2005), Bini is dismissive of nostalgic interest in his work and cites new projects such as his factory-built Binishelter, a perceivably more conventional structural offering for social benefit erected using his novel air inflation techniques. More ambitious still were the speculative projects undertaken with the Shimuzu Corporation of Japan, which included 'self-shaping' shelters for lunar habitats and a mile-high robotically assembled tetrahedral megastructure to house 600,000 people. Bini sees mechanical revolution (automation) in the construction industry as inevitable and cites the robotic takeover of the

automobile industry that transformed the manufacture of cars in the 1970s as a model for the (useful) future development of the construction industry.



Construction photographs of Ashbury Public School Binishell, Sydney, Australia, 1973.

Psychophysics

Recently featured in the National Physics Laboratory (NPL) newsletter *Metromnia*² was a new project entitled Naturalness Research. Employing a multidisciplinary team of physicists, measurement scientists, neuroscientists and psychologists, the aim of this research is to study 'the relationship between human perception and pure physical measurement'. Within an area of science known as psychophysics,³ the project will seek to quantify the physical and experiential properties/qualities of natural (organic) materials to enable their synthetic reproduction for industry. NPL acknowledges the finite nature of certain natural products, with their overuse leading to a 'negative impact on environment and communities'. As such this project is an attempt to more fully comprehend in both physical and sensory realms the qualities of the 'natural'. By introducing an index or scale by which these properties can be measured, one can assess and design for industrial reproducibility. This research could perceptibly stimulate the invention and coalition of a whole series of new materials with psycho-sensory combinations hitherto unknown. In this respect it complements the work of Professor Mike Ashby⁴ at the University of Cambridge's Engineering Design Centre who devised the extremely useful Materials Properties Charts that graphically plot pairs of material properties such as strength against cost, or Young's Modulus against density. In order to assess the psychophysical qualities of naturalness of any given material, scientists at NPL are developing their own range of antennae, which include an artificial fingertip equipped with a range of sensors to 'measure pressure, movement, friction, and roughness' and the IRIS

(Image Replicating Imaging Spectrometer), which measures how the changes in lighting conditions affect 'depth, texture and colour perception'. Add to this NASA's artificial nose (or eNose)⁵ for industrial odour sensing and leak detection and you are beginning to construct a more comprehensive set of analytical devices for the sensing of the 'real'.



The Nasal Ranger from St Croix Sensory Inc is a kind of nasal telescope, or noscope, for detecting odour long-range.

Feel the Quality

While seeking a more comprehensive measure of human happiness, one often hears the words 'quality of life'. This designation of the quantitative indices of life operations is about to become political. UK opposition party leader David Cameron has recently established the Quality of Life Policy Group to 'investigate every aspect of the Quality of Life agenda: Transport and housing, urban planning and the quality of public space; pollution, waste, biodiversity and the countryside; energy and climate change'.⁶ In 1999 the Office of the Deputy Prime Minister published *Quality of Life Counts*,⁷ in the foreword to which the Right Honourable John Prescott MP states that: 'Improving the quality of life for the people of this country is perhaps the most important duty of Government.' In

establishing the exact meaning and scope of 'Quality of Life' we should turn to the excellent Scottish Executive report *Quality of Life and well-being: Measuring the benefits of culture and sport*,⁸ which includes a separate appendix featuring 16 different definitions. The report also summarises how a governmental agency might seek to determine Quality of Life through an aggregated balance of objective statistical analysis (income, job status etc) and a more subjective appraisal of the nature of happiness, satisfaction and well-being. Architects⁹ and designers should make it their business to include their own social services in the Quality of Life agenda or they will remain mere stylists of the badly programmed. **AD+**

'McLean's Nuggets' is an ongoing technical series inspired by Will McLean and Samantha Hardingham's back issues of *AD*, as explicitly explored in Hardingham's *AD* issue *The 1970s is Here and Now* (March/April 2005).

Will McLean is coordinator of technical studies, with Pete Silver, in the Department of Architecture at the University of Westminster.

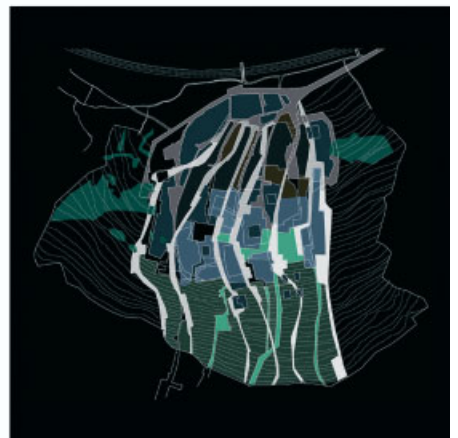
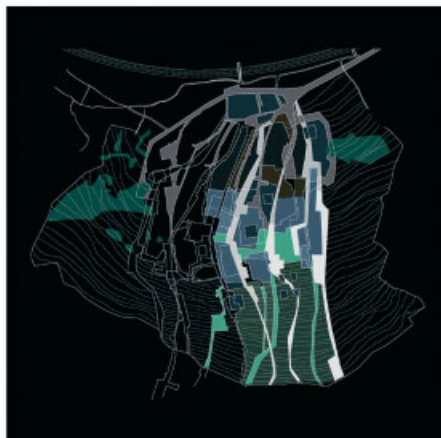
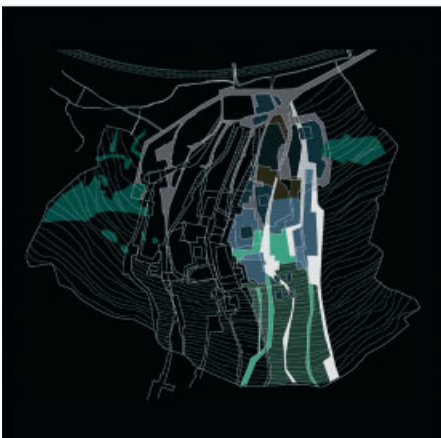
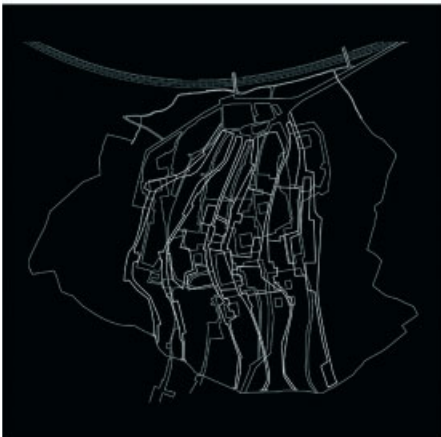
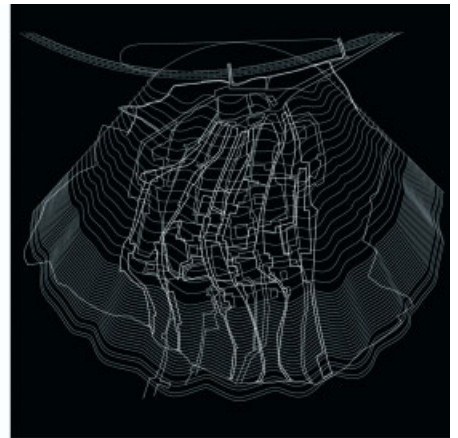
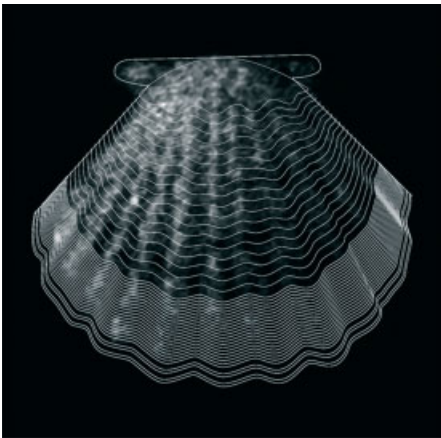
Notes

1. <http://www.binisystems.com/>
2. *Metromnia*, Issue 22, Spring 2007, National Physics Laboratory, Crown Copyright, 2007.
3. GT Fechner, *Elements of Psychophysics*, Vol I, Holt, Rinehart and Winston (New York), 1966.
4. MF Ashby, *Materials Selection and Process in Mechanical Design*, Butterworth Heinemann (Oxford), 1999.
5. http://science.nasa.gov/headlines/y2004/06oct_enose.htm.
6. www.qualityoflifechallenge.com.
7. <http://www.sustainable-development.gov.uk/sustainable/quality99/ind ex.htm>.
8. *Quality of Life and well-being: Measuring the benefits of culture and sport. Literature review and thinkpiece.* <http://www.scotland.gov.uk/Publications/2006/01/13110743/11>.
9. Architect Cedric Price was a member of Maurice Goldsmith's Science Policy Foundation's (formerly the Science of Science Foundation – SSF) Quality of Life committee from 1970 to 1978.

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Why Critical Modernism?

In a new edition of a seminal book, *Critical Modernism: Where is Post-Modernism Going?* (*What is Post-Modernism?* 5th Edition), **Charles Jencks** argues that social and economic forces have reached a new stage of global civilisation. This promises the onset of a new cultural strain of thought: Critical Modernism. Here he defines and argues for a significant and more analytical mode of perceiving the world in all its complexity.



Critical Modernism is an idea whose time has come. The temperature of daily life is rising, and not just because of global warming. Problems of an advanced civilisation are now understood to be chronic, a by-product of success: pollution, congestion and the lack of wilderness, clean water and solitude. Many such problems are caused by overpopulation, but the more a country is modernised the more endemic they are because they spring from the same Pandora's Box: a growing economy and the complexity of its interconnections. This is usually described by one, or all, of the three M-words: Modernity, Modernisation and Modernism. These come as a cohesive bundle. Once a country has a modernising economy and technology, it acquires a style and ideology of progressive modernity, and a culture of Modernism. This has been true in the West since, surprisingly, the fourth century when the Christians tried to modernise the pagan world of Rome and uttered the hopeful injunction *modernus*. With the 'good' *maniera moderna* recommended by Filarete and Vasari in the Renaissance, and the rise of global capitalism at the same time, the three Ms have been tightly coupled ever since.

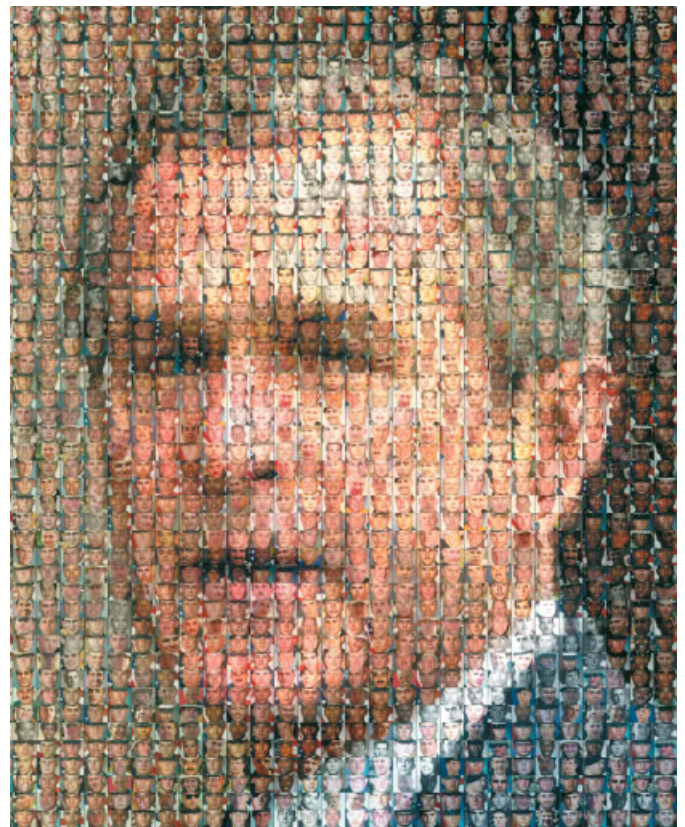
Irrespective of labels, with the evolution of society problems multiply until they reach a critical mass or critical bifurcation point. This truth has been illuminated by the science of 'self-organising criticality', and become widely known in several examples: the Perfect Storm, the stock-market crash and the nuclear chain reaction. It also helps explain why, when Modernism is so ubiquitous today, and in such previously undeveloped places as Dubai, it is likely to become self-consciously critical – a Modernism2 or Modernism3. Reflecting on the problems caused by oneself is an introspection likely to make one more mature, ironic and sceptical – in a word, critical. Consider those who have a well-developed culture of fixing their own self-inflicted problems, that is, architects and builders. Wisely they have internalised a set of nostrums that deal with Pandora's Troubles. 'Murphy's Law', or the customary fact that 'anything that can go wrong will go wrong', is not only true of the building trade, but finds its counterpart in military and political equivalents (SNAFU – 'situation normal, all f•••• up' – is the most famous). That is the usual condition of the modern world, and that message is around.

Scepticism

In the 1960s the young generation became sceptical because of the lies politicians told about Vietnam. In the 2000s there was no draft and hence no generational disenchantment, but today, because of Iraq, young and old know their politicians are lying. According to YouGov and other polls of 2007, 16 per cent of Britain believes the Prime Minister tells the truth, and 50 per cent that Britain has got worse over the last year and

that the country will be a still worse place in which to live in five years. The verdict? Widespread disenchantment, private wealth and public squalor – give them bread and circuses. By 2007 most had accepted their leader was 'Tony Blair', that Blying was common, that Cash for Honours was the norm. The choice was clear: be either cynical or critical.

In architecture and planning, the sceptical Jeremy Paxman of BBC *Newsnight* cross-examined the man who put in the winning bid for the London Olympics. Was it not strange, Paxman asked, that this bid was economical with the truth, that the estimate sprawled from £3 billion to £6 billion to £9 billion, and then some billions? 'Well, it won didn't it?' That was the brazen answer of a government committed to Blying, and in this case making the arts community pay for the bread, circus and expensive architecture. John Tulsa and those dependent on art grants were not amused. Lies about Iraq are only the most public form of general disenchantment.



Bush portrait from US war dead, 2004

This anonymous picture of the president is made from photos of the first thousand Americans killed. The 'excess' Iraqi dead, continuously suppressed by governments, was estimated in 2006 by independent experts at 655,000. Where denial exists, Critical Modernism uses cool description. (Artist unknown, circulated on the Internet.)

Peter Eisenman, City of Culture, Santiago de Compostela, Spain, 1999–2009

Here, five opposite codes are crossed: the coquille shell of the ancient city, the shape of the existing hill, ley lines, the medieval city plan and the Cartesian grid. These markings make their way through and over the building creating a new grammar as they interact – the critical as algorithmic difference.

Angry Serene

When 84 per cent of a country believes its Prime Minister is only loosely connected to the truth, you can bet scepticism has become the reigning style and habit of mind. Such moods change arts and architecture. Since *Look Back in Anger* and the Angry Young Man of the 1950s, since Francis Bacon's characters writhed in cages and Brutalism dominated the housing scene, more recently since Martin Amis and Damien Hirst augmented this tradition, the art of anger has been a primary mode. With Brit Art it is as common as, in the 19th-century novel, the blush on the cheek of a virgin. The point for a Critical Modernism is that if chronic problems with modernisation and anger can be assumed, if they are widespread and *now completely conventional*, then the critical need not be the choleric. The new style is controlled, not the sullen but the Angry Serene. Damien Hirst adopts this mode in his best work, his 'crucifixions of nature' (flayed sheep on the cross) – a comment on Francis Bacon. The American artist Brian Tolle is ultra cool in his depictions of a country divided into the blue and red States by the 2004 presidential election.



Brian Tolle, Die, or Join, ICA, Philadelphia, 2006

A two-headed snake, in blue and red segments signifying the division between liberal and conservative States, on occasion snaps together signifying war. The snake's moving shadow also maps out the shape of America's coastline – a content-driven work, critical of the political scene.

In Berlin, the city where Critical Modernism has developed furthest, the Chinese artist Cai Guo-Qiang has created an installation that is a composed response to the terrors and catastrophes of modernity. Ninety-nine wolves jump across space – the ultimate image of herd mentality – and hit the glass wall. Using gunpowder to create explosion paintings typifies the Angry Serene. Cai gathers a crowd of onlookers in a gallery courtyard, places stencils of wolves on a huge canvas,

sets off a controlled explosion, then displays the blackened silhouettes as if they were artworks lifted from Lascaux. Nothing is more raw and primitive than this, nothing as sophisticated. The Angry Serene depends for its charge on presenting the nastiness and horror of the modern world with an unruffled professionalism. No wonder these artists look to Renaissance *sprezzatura*, when skill at making the difficult look easy was also admired.



Cai Guo-Qiang, Head On, German Guggenheim, Berlin, 2006

In this three-part installation, a wolf pack leaps to the attack, only coming to its downfall when it hits the glass wall. The drawing (above) *Vortex*, was created by detonating varieties of gunpowder (seen in the explosion) below stencils of wolves, thus giving the ghost image of a prehistoric cave painting. The 99 life-size wolves were constructed from painted sheepskins stuffed with hay and given marble eyes.

Cross-Coding

Except for Hiroshima, Berlin is the city that suffered the most under modernity, so it is no surprise that it has some of the best works of Critical Modernism. There are the many monuments to war and occupation: the two prominent Holocaust memorials by Daniel Libeskind and Peter Eisenman, and the paintings and sculpture of Anselm Kiefer. That a major art has emerged from catastrophe is no small feat. More important, that the Germans have faced and debated their recent past in the Bundestag and allowed these



Toyo Ito and Cecil Balmond, Serpentine Pavilion, London, 2002

A clear use of a simple algorithm to generate a beautiful structure. This is modified in colour, size and shape to capture its natural green and blue setting in a striking way.

unwelcome facts to be memorialised right in the heart of parliament (with Russian graffiti) shows that denial and lying need not dominate public discourse. There is now a style of acknowledging the past, displaying the facts without rhetoric, that is typified by Eisenman's Memorial to the Murdered Jews of Europe. Abstract, descriptive and neutral it calls on the ubiquitous white cube of 1920s Modernism, although here in Berlin to symbolise the dead they are grey cubes and in the form of graves, making the modern cliché iconic, semantic, giving it a spiritual role more than its meaning as the aesthetic of emptiness.

The critical approach stems as much from the complexities of contemporary life as it does the problems and tragedies. Hence if one were to list the canonical works of Critical Modernism they would include the buildings that have emerged through algorithmic design, specifically the complex ones. The most striking example of this is Toyo Ito and Cecil Balmond's 2002 Serpentine Pavilion, a perfect answer to Mies van der Rohe's Barcelona Pavilion because it shows the new interest in the fractal geometry of nature, forms that mirror the processes of the cosmos. Generated by the algorithm of an expanding and rotating square, this simple formula is allowed to create a very complex, self-similar geometry in plan, elevation, section and detail. Just as the simple formula of the Mandelbrot Set, $Z = Z^2 + C$, creates the most unified form of variety, a symbol of nature's complexity, so too does this rotating square. Computer design has now made the



generation of complexity more economical and so the convention of Critical Modernism is to take several algorithms and cross-code them at once. Eisenman's City of Culture in Santiago typifies the mixed coding. What makes it more critical than the usual computer design is the way that conflicting codes with historical and cultural meaning play as much of a role as functional ones. To think critically is to put one set of ideas against another, to confront opposites, to admit difficulties, to stop denying the realities of modern life and start making a stark but sensual art from their conjunction. A building that does this creatively is Rem Koolhaas' Casa da Musica, a severe icon of minerals on the outside (it won a competition as the 'diamond that fell from the sky') cross-coded with local Portuguese codes and a dramatic hollowed-out space.



Rem Koolhaas, Casa da Musica, Oporto, Portugal, 2005
Opaque 'milky quartz', a mineral icon, won the competition with other metaphors.



Peter Eisenman, City of Culture, Santiago de Compostela, Spain, 1999–2009

Critical symbolism: Coquille St Jacques, the symbol of Santiago repeated throughout the city, and one of the patterns used by Peter Eisenman to generate the plan of the new City of Culture, cross-coded with others.

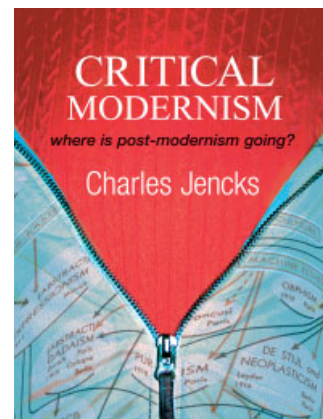
Younger designers who stem from these three architects – for example, FOA, UNStudio and Greg Lynn – swerve away from their exemplars, exhibiting another aspect of the critical. When one examines the last 200 years of Modernism, a pattern of critical swerving can be found. Who did the Futurists criticise – the Fauves. Who berated the Futurists for warlike art – the Dadaists. Who passed judgement on the Dadaists – the Surrealists. And so it goes on. As Harold Bloom showed in *The Anxiety of Influence*, the modern poet has to adopt a double stance, honouring the exemplars while modifying their message. This creates the immanent dialectic of Modernism and the swerving pattern of history; it helps explain why the standard diagram of Modern Art, the one that Alfred Barr fashioned for MoMA in 1935, is philosophically flawed. Barr drew a map of the Zeitgeist, lines of force ending in the box of MODERN ARCHITECTURE and abstract art, ruthlessly cutting out Dadaism and Surrealism that wasn't abstract. As Karl Popper argued, a belief in the Zeitgeist was what the Reactionary Modernists Hitler and Stalin foisted on followers, and as he further pointed out, a Critical Rationalism is one answer to those who believe in a deterministic spirit of the age.

Critical Modernism unzips the Zeitgeist view of history, the great white elephant theory that shows multiple bloodlines leading inexorably towards a single conclusion. Modernism, as an underground tradition, has always been critical of itself and others, even if the MoMA of all views sees it all aiming in

one direction. It is true that Corporate Modernism and the white cube are dominant around the world, statistically. But the deeper truth is that the critical and the modern have formed a dynamic hybrid where the scepticism of the former and the transcendence of the latter make a potent cocktail – the creative tradition that lasts. **Δ+**

Critical Modernism: Where is Post-Modernism Going? (What is Post-Modernism?, 5th Edition) by Charles Jencks is published by John Wiley & Sons, and available in paperback and hardback editions. See www.wiley.com.

Text © 2007 John Wiley & Sons Ltd. Images: pp 140, 145(t) © Courtesy of Eisenman Architects; p 141 © Artist unknown, circulated on the Internet; p 142(l) © Brian Tolle; p 142(r) © Photos C Jencks, © Cai Guo-Qiang; pp 143-144 © C Jencks



Unzipping Modernism: the cover of *Critical Modernism* shows the Alfred Barr diagram of 1935 parting for a more complex view of competing traditions, with pink blobs restored to their semi-autonomy.

Home Body

Leon van Schaik reviews *Households*, a compelling photographic documentary project by artist and architect Mark Robbins, which portrays actual people in their own homes. Eschewing the 'somnolent' mode of styled interior photography, which is more about what people wish for rather than where they actually live, Robbins captures the intimacy of everyday domestic settings and relationships and in so doing engages 'architecture with the full panoply of human emotions'.



Peter and Aaron, Rotterdam, 2004 (building architect: A Krijgsman)
Americans in Rotterdam – visitors who are in a sense roosting in a modern space, rather than crafting a personal interior.



ABA, Johathon and Christopher, East Hampton, New York, 2003
A trim and elegant couple shaped by and shaping their environment: clipped hedges, crisped sheets, sculpted bodies.

Even though our lives are steeped in imagery we are little conscious that here, in our negotiation of the world 'as we find it', there is a form of human knowledge that is spatial and visual and difficult to capture in text. This knowledge is undervalued in scholarly circles with their emphasis on maths or writing. On the face of it television, magazines and newspapers are suffused with imagery supporting this form of nonverbal knowing. But this is very much in the 'warm bath' mode of subconscious affirmation recognised by Marshall McLuhan. I doubt it ever extends anyone's awareness in any way at all – it serves to slow us down and serve us up for Sunday lunch and prepares us for somnolent Sunday afternoons.

How do we access this knowledge? Become aware of it sufficiently to learn from it more than the nostalgia that Sontag identified as the inevitable effect of the photograph? There is a path to this knowledge, and it eschews the form of the album – which is irredeemably that of lost worlds, whether themed by topic or time. We see the power of this approach in the work of Ed Ruscha with his camera eye capturing 'sets' of images from a constant viewpoint: serried ranks of gasoline stations, car parks, pools and the monocular progression down each side of Sunset Strip.¹ The consistency of the focus, the composition of the sets – these lead us into reveries that more random collations do not sustain. Something of this power to capture our attention washes over into the work of artists who deal in the spatial. Keinholz's three-dimensional constructs give a clue to the compression that the approach engenders. Our minds enter a realm that they are seldom in touch with after early childhood experience of the world – under tables, in tree houses and so on – fades. Hockney's serial fascination with pools and flashes of untanned buttock reveal the personal primeval that works through space, and never leaves us.

Mark Robbins' own work has often dwelt upon the spatiality that supports minority flirtations, creating architectural fragments that allow both display and contemplation.² This is

countries other than those they were born in are confronted with a spatial world that is novel to them, and they are excluded from the deep history that informs those who grew up in and live within the embrace of one place, and migrants deal by contrast in a domain of surface.

We can experience this 'mental space' of communities in *Barcelona Lab*,³ the Actar book that binds photos of Barcelona ateliers to one cover, and photos of the designers who have made them on the opposite – so that one can wile away hours flicking between them wondering who fits where, which space has been created by which face. Earlier, in the 1970s, *In Più*⁴ built up a picture of Milanese 'mental space' using a series of survey techniques, including asking people to submit a photo of their favourite space at home, of their favourite object in that space, and a drawing of the one thing that they would like to have at home but which they did not yet possess. No matter that the essentially 'Mittel Europa' bourgeois sensibility revealed was undercut by the handwritten legend 'l'aqua' that accompanied a snapshot of an elderly woman with a distinctly agricultural mien (all submissions were accompanied by a passport photo.) The *In Più* venture moved on to cover urban spaces, and transport, before it collapsed – perhaps under the weight of its own data.

As Ruscha demonstrates, there is a form to these investigations that ensures their impact, and it is very much about defining the boundary of each investigation so that it matches its subject. Robbins' latest book, *Households*, is a beguiling investigation into this territory. Wherever the book arrives, people take it up, become absorbed, and with a quiet passion begin to seek out the stories that the book holds in its formally posed photographs. What boundary does Robbins use to create this compelling imaginary? The driving strand is a focus on the spaces that gay couples have made for themselves. The proponents are photographed and located one each in the flanking wings of a triptych, while the central panel of the trio is occupied by a space that they have made. The triptychs are sometimes doubled and sometimes mirrored. Sometimes these couples appear twice, once in their city apartment, once in their country retreat. Sometimes the proponents appear stripped to the waist – there are many torsos – as well as fully clothed, and this extends the triptych symmetrically. In the captions we are given first names, and the length of the relationship that is being depicted through its spatial manifestations. These are clearly very carefully posed portraits, and they do not have the tawdry ordinariness of the snapshots of interiors across Britain that is manifest in a recent UK publication. One extremely trim and elegant couple appear stripped to the waist, one holding a racquet, in a hedged lawn tennis court in the country – an image that has the same power as that archetypal USA portrait *American Gothic*, but made haunting here by the sameness that their interest has created in them, there by the sameness wrought by hardship endured.

But there is a full range of circumstances on display here, from the poor to the wealthy, from the temporarily (?) alone, to those whose worn comfort reveals decades of cohabiting.



not voyeuristic so much as a determination to engage architecture with the full panoply of human emotions. That one should come to this as a member of a minority is no surprise. The 2 per cent of the world's population who live in



Anja, Hook of Holland, Rotterdam, the Netherlands, 2004 (building architect: JJP Oud, 1926)

Note the contrast between the homeliness of the interior crafted (one assumes) by Anja, and the forceful 'modern' rhetoric of the external architecture.

And there are those who live in a commune of three or more, who demonstrate in some cases both spatial and physical likeness, and in another case, dissimilarity and power disparity. So much of Robbins' book is about the spatial forms that surround the love of people of like-gender. However, it also includes similarly posed and carefully observed shots of people who could be the parents of the featured couples, also in their city spaces and in their country retreats. This connection to family, and an extension of our conception of family, is clearly one of the book's driving forces – we are in a web of friendship, family and collegiality. We are invited into a contemplation of spaces inhabited by one family over some generations. The passing on from one generation to another is hinted at, at length with a family in which all the couplings appear to be heterosexual, and with one where the property seems to have gone to a gay couple, and the question of succession in such circumstances has arisen.

Style and taste are on display, and one finds every manifestation of interior from minimalist to contemporary baroque. It may be that part of the effect is to confirm that this minority inhabits the same mental space as that which the majority that spawned it inhabits. A drive towards acceptable taste dominates, with the most interesting spaces belonging to those who have had to work for the longest to accommodate the accumulations of objects as keepsakes.

Two subthemes run through the book, disturbing its boundary in a manner that I would have expected to disrupt the rigour that *In Più*, Ruscha and *Barcelona Lab* exemplify. The first is a series of portraits of people who are alone on a retreat in the country. The emphasis here is on portraiture and the capturing of the mostly minimal traces that the subjects have made on their fairly anonymous, often dormer-window dominated, bedrooms. The second is of a series of people in Rotterdam, where Robbins spent some time with his long-time friend and colleague Aaron Betsky, who appears with his partner in the triptych format in his Rotterdam setting. In this Betsky is atypical. The other characters captured here, either families or singles, seem to be in a difficult dialogue with the Modernist architecture

they inhabit. It is as if Robbins is observing people who are trying to make their spaces within the confines of a built ideology, one first manifested in the early 20th century, but still going strong. By contrast, the Stateside architecture is all rather a Hollywood comedy of manners in style, either in a full-blown fragment, or in a scaled down suburban vernacular. Cary Grant lurks.

That this is a personal account rather than a didactic polemic becomes slowly evident. One triptych has two spaces configured for Christmas or Thanksgiving celebrations dividing the author and his partner (?), from an older couple (parents of the partner?) and a heterosexual couple, one of whom one guesses must be the sibling to the partner (?). This is what can only be described as 'affectionate' space, something that is strongly manifest in another set piece that documents the author's parents and their home. The text of the book contains a triptych of the same couple and their country retreat. That this formally constructed photographic essay serves to describe a network of care and affection, one to which the reader wishes to add his or her own partnership and own space, is perhaps its greatest triumph when the lives of gay people are usually depicted in film and in literature as leading to separated and tragic lives. ▴+

Households by Mark Robbins, with essays by Bill Horrigan and Julie Lasky, Monacelli Press, 2006, ISBN 1-58093-164-2.

Notes

1. Ed Ruscha, *The Sunset Strip: Every Building on the Sunset Strip*, Ed Ruscha (Los Angeles), 1966, and Ed Ruscha, *Thirty Four Parking Lots in Los Angeles*, Nigel Greenwood (London), 1967.
2. Mark Robbins, *Angles of Incidence*, Princeton Architectural Press (New York), 1992
3. Manuel Gausa, Carles Guerra and Manuel Guerro, *Barcelona Lab*, Actar (Barcelona), 2003.
4. Ugo la Pietra, 'L'uso dell'oggetto: per un comportamento creativo nei processi di reappropriazione dell'ambiente', in Floriano de Angeli (ed), *Progettare In Più*, Jabik Editori (Milan), 1973, and Ugo la Pietra, 'L'uso della città: per un comportamento creativo nei processi di reappropriazione dell'ambiente', in Floriano de Angeli, op cit.

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Hertzian Space

Material Response to Spatial Presence

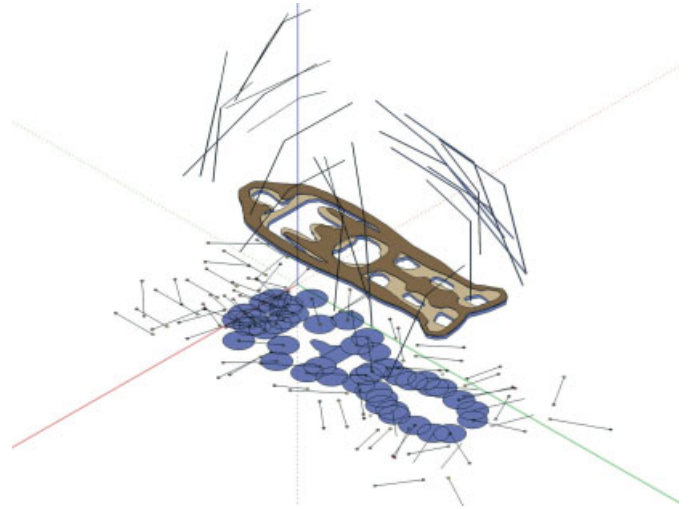
Mark Taylor describes how an interest in the possibilities of generating spaces that fully respond to people's presence and their activities led him and Mark Burry to undertake a project with students at Victoria University Wellington, New Zealand, that spatialises the dynamics of a full body massage.



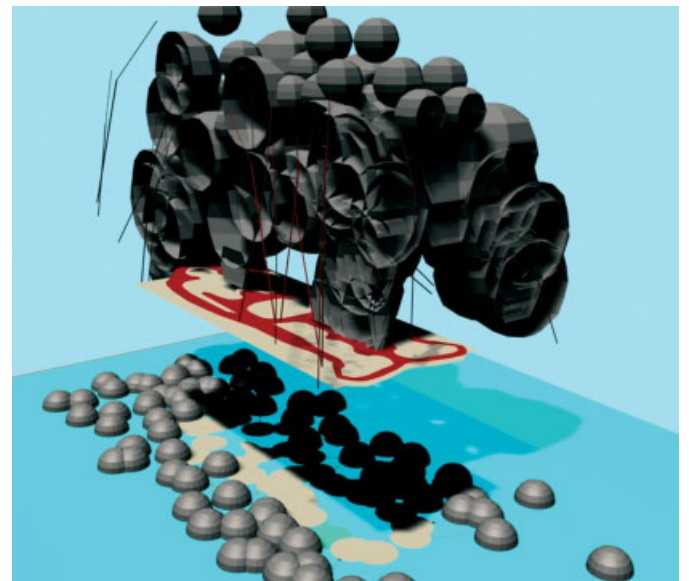
Full-scale assembly of the physical EVA model used to test the behavioural characteristics of one 'structural' zone.

In social anthropology the notion that ‘space defines the people in it’ carries the reflexive position ‘people define space’. Under this latter conception the presence of a person or activity changes the spatial dynamic without alteration to the physical environment. For example, in Honore de Balzac’s *Louis Lambert* the main protagonist has a strength that makes space ‘withdraw before his advance’.¹ A field or zone radiates outward dematerialising objects, overlapping and interfering with other emissions establishing a presence, and the resultant interior form can be found through understanding this dynamic system. The aim is not to produce a universal Modernist form that accommodates the activity, but to generate surface from context-specific bodies and activities that directly influence material arrangement.

Complex interrelations between operational parameters and material form derived from localised climatic conditions suggest that form generation is not anticipated, but is formative. Maps and diagrams are used to bound and shape, so that interior surfaces become an outward projection – a spatial presence of occupational activity. The degree to which objects and people structure the environment by casting shadows, leaving imprints or impressing themselves on or through objects and each other, evolves a building typology responsive to sociospatial climate. Specific conditions including dead zones, overlaps and interferences contribute to a diagram not unlike the Hertzian space identified by



Physical modelling of the masseur’s spatial envelope.

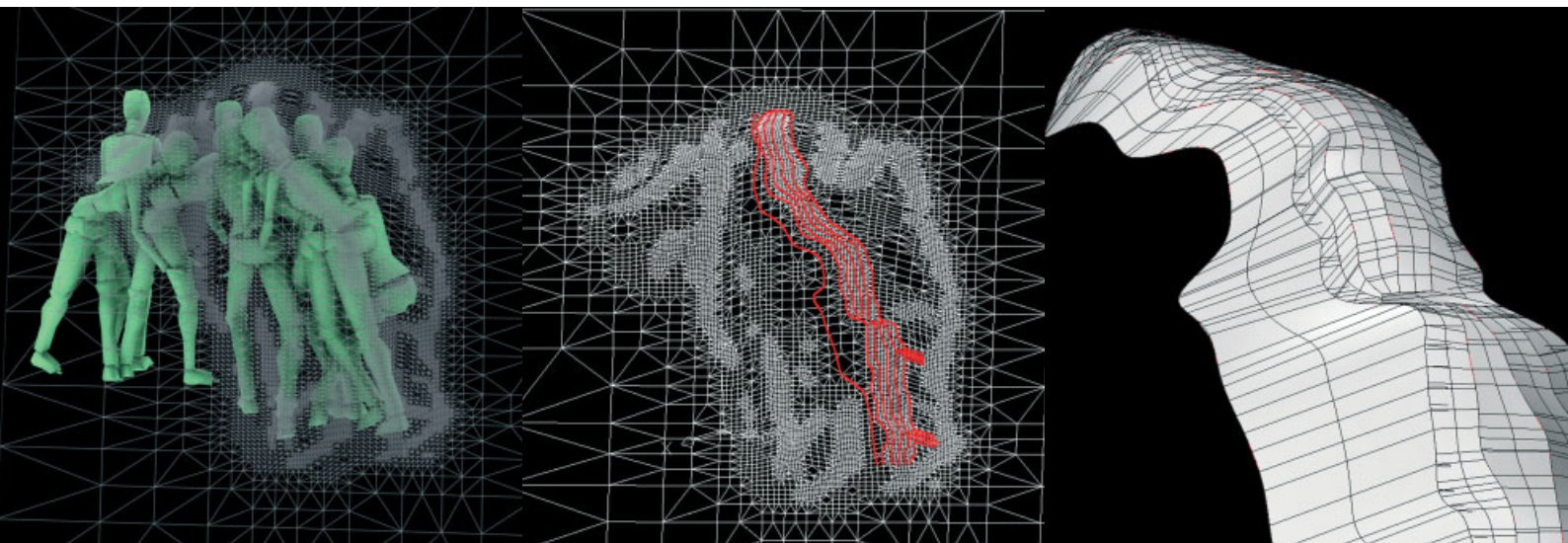


Anthony Dunne and Fiona Raby.² While these researchers focus on the spatialisation of electromagnetic waves radiating from electronic objects, this experiment reads interior environments as connected space, bounded not exclusively by ‘construction’ but as a spatial delimitation that contributes to the making of surfaces. That is, differentiated spaces providing for individual occupation, use and preferences of inhabitants are directly informed by social occupations. Boundaries become a relative notion determined by individual and collective inhabitation, and localised temporal states.

In one experiment conducted at Victoria University Wellington, New Zealand, by myself and Mark Burry, three students collaborated on the ‘full body massage suite’ with the intention of spatialising the dynamics of the activity. A number of constraints were established, including registering the body’s movement in space during massage, and mapping changes when boundaries extended. Initial physical



Occupational activity used to define tolerance volumes and the material arrangement of the ‘pod’.



Biped animations define the inner 'relaxed' and deformed 'stretched' surface enabling the optimisation of the 'structural' zone and developed patterns.

experimentation with plaster of Paris and textile materials was conducted through full-size modelling against the body. This included stiffening the textile to provide a solid form where it comes into contact with the body, leaving other material loose, and vice versa.

Further design data came from considering massage practice itself and the position of the masseur relative to the client. Two students of differing physical stature simulated massage and documented the process, noting that their respective boundaries extended, interpenetrating each other and dematerialising into a continuum of bodily presences. Digital images imported into a Sketchup model were used to define tolerance volumes accommodating data from both students' simulations. The final 3D Studio Max digital 'pod' was generated from a series of U-lofts made from vertical/radial sections through the tolerance volume bubbles that provided the data for a subsequent feedback process that included biped animations. Two bipeds animated with appropriate movements related to 'moving centres' and, positioned relative to the massage table, defined the inner 'relaxed' and deformed 'stretched' surface. Generation of the pod using a digital 'drape' technique resulted in a direct relationship between curvature and body position, visualised through density of faces indicating greater curvature. Optimisation of the form enabled the development of one 'structural' zone through other software packages to be flattened into developable strips for pattern cutting. Full-size physical form was constructed using ethylene vinyl acetate (EVA) foam with 3-D shape defined by the patterns resulting in a nonlinear articulated surface.

Working with concepts of Hertzian space and connectedness is difficult in a discipline that has, in the Western tradition, concerned itself mainly with 'permanent'

physical constructions. However, when considered as an invisible alternative there is the possibility of destabilising this tradition and extending our understanding of architecture through speculations and projections on the way space influences, and is influenced by, the body, occupation and activity. This approach integrates data analysis with speculations, so that form is an outcome rather than a preconception and precursor to broader design enquiries. The process described here merges traditional understanding of 'substantial' structures with more fluid bodily movement and occupational activities, leading to unexpected and provocative new readings of the interior and its associated human activity. **Δ+**

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This experiment was conducted at Victoria University Wellington, New Zealand.

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Original author 'full body massage suite': Yijing-Xu

Collaborative design team: Diana Chaney, Matthew Randell and Yi Wen Seow

Notes

1. Honore de Balzac, *Louis Lambert*, J Corti (Paris), 1954, p 19; cited in Gaston Bachelard, *The Poetics of Space*, Orion Press (London), 1964, p 231.
2. See Anthony Dunne, *Hertzian Tales*, RCA Computer Related Design Research (London), 1999, and Anthony Dunne and Fiona Raby, *Design Noir: The Secret Life of Electronic Objects*, August (London), Birkhauser (Basel), 2001.

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Rationalist Traces

Guest-edited by Andrew Peckham, Charles Rattray and Torsten Schmiedeknecht

Modern European architecture has been characterised by a strong undercurrent of rationalist thought. *Rationalist Traces* aims to examine this legacy by establishing a cross-section of contemporary European architecture, placed in selected national contexts by critics including Ákos Moravánszky and Josep Maria Montaner. Subsequent interviews discuss the theoretical contributions of Giorgio Grassi and OM Ungers, and a survey of Max Dudler and De Architekten Cie's work sets out a consistency at one remove from avant-garde spectacle or everyday expediency. In Germany Rationalism offers a considered representation of state institutions, while elsewhere outstanding work reveals different approaches to rationality in architecture often recalling canonical Modernism or the 'Rational Architecture' of the later postwar period. Whether evident in patterns of thinking, a particular formal repertoire, a prevailing consistency or exemplified in individual buildings, this relationship informs the mature work of Patrick Berger, Claus en Kaan Architecten, Carlos Ferrater, Cino Zucchi or Hans Kollhoff. The buildings and projects of a younger generation – Javier García Solera, GWJ Architekten AG, biq, Andrea Bassi or Beniamino Servino – present a Rationalism less conditioned by a concern to promote a unifying aesthetic. While often sharing a deliberate economy of means, or a sensual sobriety, they present a more oblique or distanced relationship with the defining work of the 20th century.

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Interior Eye Foster + Partners' Hearst Tower and Gehry Partners' IAC Building

Building Profile Cecil Balmond's Pedro and Inês Bridge

Practice Profile Gert Wingårdh

Userscape Brigitta Zics

Site Lines Mark Taylor

Charles Jencks on Critical Modernism

Leon van Schaik on Mark Robbins' *Households*

Regular columns by Will McLean, Neil Spiller and Ken Yeang